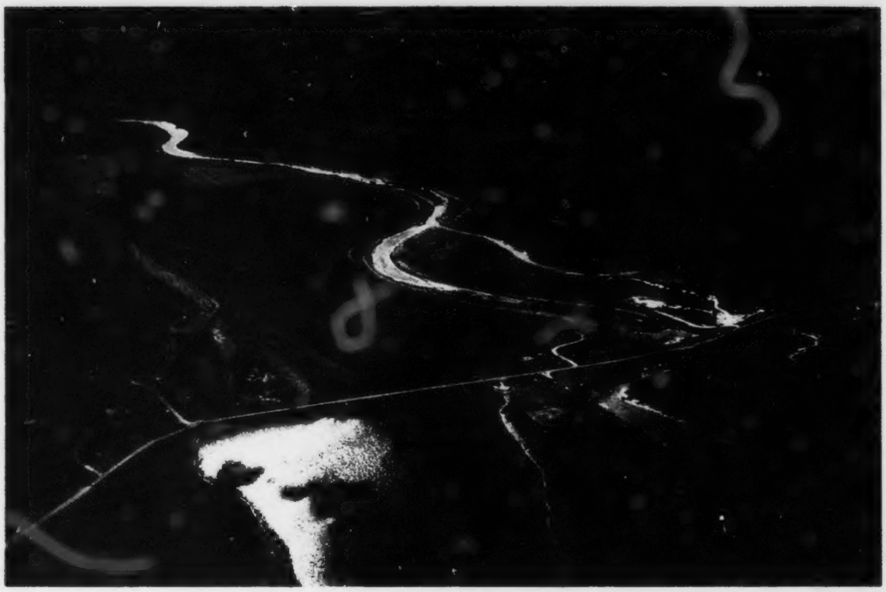
Rafferty - Alameda Project



Volume II
Public Consultation Process

Initial Environmental Evaluation

Environment Canada
Conservation and Protection

Environnement Canada
Conservation et Protection

Canada

Rafferty-Alameda Dam Project

Initial Environmental Evaluation

Volume II

Public Consultation Process

Environment Canada
Conservation and Protection
Regina, Saskatchewan

August 1989

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PUBLIC CONSULTATION PROCESS

Introduction

On April 10, 1989, Mr. Justice Bud Cullen of the Federal Court of Canada quashed the federal International River Improvements Act (IRIA) licence for the Rafferty-Alameda Project (henceforth referred to as the Project) and ordered compliance with the federal Environmental Assessment and Review Process (EARP). The Minister of the Environment, on April 12, 1989, directed his officials to apply the EARP to those areas of federal interest related to the Project. In keeping with those instructions, the EARP was initiated at the initial phase by preparing an Initial Environmental Evaluation (IEE). The Minister also required that public review of the draft IEE through public meetings be included as part of the process.

On June 5, 1989 Environment Canada released the Draft Initial Environmental Evaluation and the public was invited to review and comment. Summaries of the draft IEE and the full document if desired, were made readily available and the department committed to hold public meetings and open houses.

Issue Scoping

To make this process as effective and meaningful as possible, private sector consultants carried out an issues scoping process. They conducted 35 interviews; 21 with individuals known to oppose the project; 14 with those who support the project.

Those interviewed were asked for suggestions on the format of the open houses and public meetings as well as the range of public issues on the Rafferty-Alameda project. Two-thirds indicated, after a brief information summary on the IEE process, that they had no need for further clarification.

Respondents had either no comment on the open house or, with only a couple of exceptions, thought it was a good idea and important for getting information to the public. A number emphasized the need for a strong independent chairman for the public meetings. Most of the people interviewed said they preferred the Parks Canada public meeting model (i.e. signing up for presentations and presenting in 10 minute time slots with questions limited to four minutes). Two-thirds approved of the opportunity for written submissions and felt July 10 provided adequate time. The questions concerning issues elicited a wide variety of response on environment and socio-economic concerns as did a question on the most helpful sources of information.

After reviewing input from those interviewed during the issues scoping, the public meeting format decided upon was 10 minute presentations for which people registered in advance. They were encouraged to appear at the meeting closest to where they live. To give as many as possible the opportunity to speak, the guidelines were: one brief per person; one brief per organization; and one appearance only.

Public meetings were held from June 22 to 29, 1989 in Regina, Oxbow, Estevan, Melita, Minot, Souris and Brandon. Each meeting was proceeded by an afternoon open house. The Minot meeting was sponsored by the City of Minot.

Information Dissemination

News releases were issued and ads placed in the papers in the project area and in Regina and in Brandon informing people about the IEE process and encouraging their participation and comment (Figures 1 and 2).

As part of this information program, Environment Canada operated a collect call information number from June 5 to July 28, 1989. A bi-lingual person was employed to answer calls and respond to requests coming in on the information line between 8:00 a.m. and 4:30 p.m. Monday to Friday. An answering machine recorded incoming calls during off hours.

Approximately 275 telephone calls were received. For the first week, the majority of callers asked for copies of the Draft Initial Environmental Evaluation (IEE) and/or its summary. During the following two weeks, individuals and organizations made bookings for presentations at the Rafferty-Alameda public meetings, while callers continued to request Draft IEE copies. Callers made presentation cancellations and inquiries about meeting details during the fourth week. For the remaining time, individuals requested general information on the Rafferty-Alameda Project or instructions on submitting written briefs. Members of the media made inquiries throughout the operating time of the information number, and were directed to the Environment Canada represetative who could most effectively respond to their questions and comments.

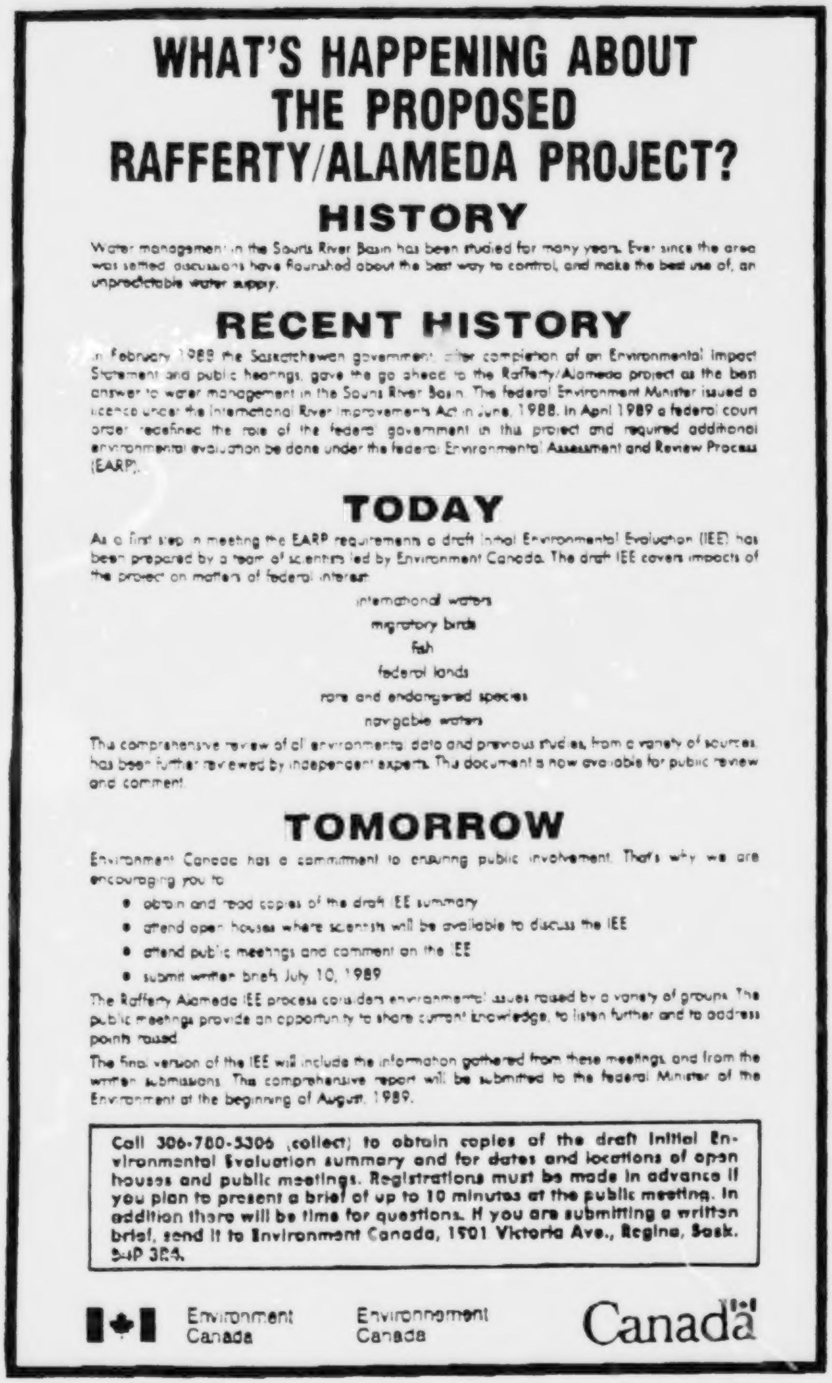
In total, approximately 1800 draft summary IEEs and 350 full IEEs were distributed to the interested public.

Open Houses

The open houses did not attract large numbers of people, however, those who did attend took the opportunity to talk to scientists about specific aspects of the study. The scientists were able to clarify a number of concerns. A monitoring sheet enabled them to track accurately the fequency with which specific issues were raised.

The scientists fielded questions on the research, project impacts and mitigation measures. A sheet titled "Who to Ask About What" clearly identified the subject areas in which each person was an expert. This facilitated the information flow and helped make clear that each person had his own area of expertise.

Figure 1. Newspaper Advertisement Describing EARP



WHAT'S HAPPENING ABOUT THE PROPOSED RAFFERTY/ALAMEDA PROJECT?

HISTORY

Water management in the Souris River Basin has been studied for many years. Ever since the area was settled, discussions have flourished about the best way to control, and make the best use of, an unpredictable water supply.

RECENT HISTORY

In February 1988 the Saskatchewan government, after completion of an Environmental Impact Statement and public hearings, gave the go ahead to the Rafferty/Alameda project as the best answer to water management in the Souris River Basin. The federal Environment Minister issued a licence under the International River Improvements Act in June, 1988. In April 1989 a federal court order redefined the role of the federal government in this project and required additional environmental evaluation be done under the federal Environmental Assessment and Review Process (EARP).

TODAY

As a first step in meeting the EARP requirements a draft Initial Environmental Evaluation (IEE) has been prepared by a team of scientists led by Environment Canada. The draft IEE covers impacts of the project on matters of federal interest:

international waters
migratory birds
fish
federal lands
rare and endangered species
navigable waters

This comprehensive review of all environmental data and previous studies, from a variety of sources, has been further reviewed by independent experts. This document is now available for public review and comment.

TOMORROW

Environment Canada has a commitment to ensuring public involvement. That's why we are encouraging you to:

- obtain and read copies of the draft IEE summary
- attend open houses where scientists will be available to discuss the IEE
- attend public meetings and comment on the IEE
- submit written briefs July 10, 1989

The Rafferty Alameda IEE process considers environmental issues raised by a variety of groups. The public meetings provide an opportunity to share current knowledge, to listen further and to address points raised.

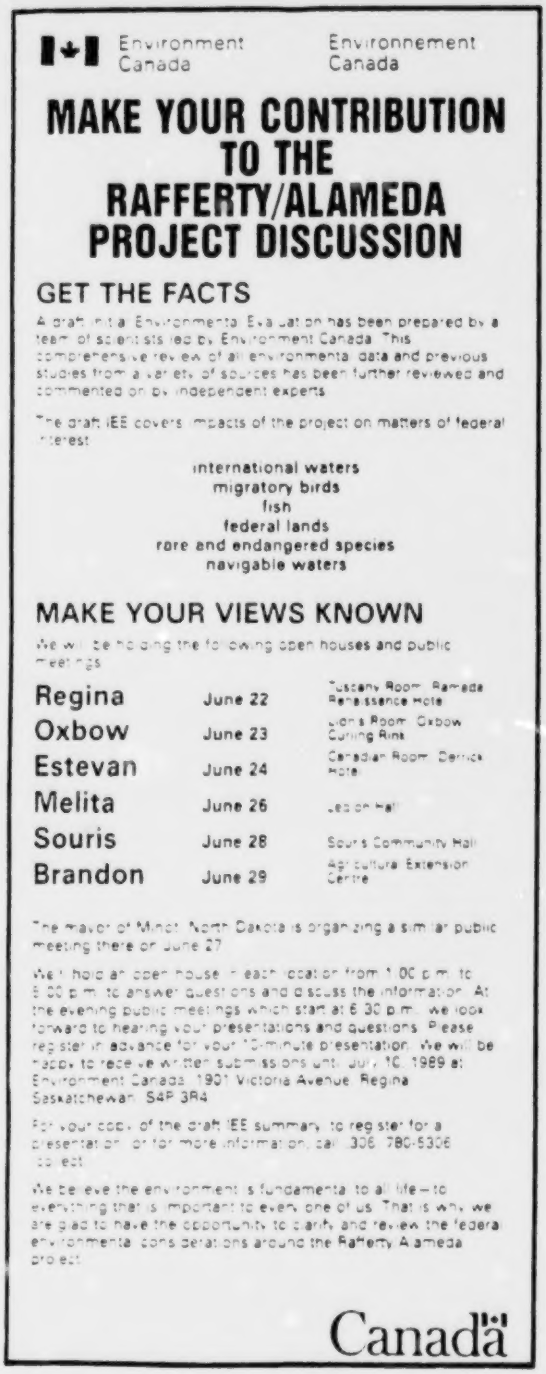
The final version of the IEE will include the information gathered from these meetings and from the written submissions. The comprehensive report will be submitted to the federal Minister of the Environment at the beginning of August, 1989.

Call 306-780-5306 (collect) to obtain copies of the draft Initial Environmental Evaluation summary and for dates and locations of open houses and public meetings. Registrations must be made in advance if you plan to present a brief of up to 10 minutes at the public meeting. In addition there will be time for questions. If you are submitting a written brief, send it to Environment Canada, 1901 Victoria Ave., Regina, Sask. S4P 3R4.

Environment Canada
Environnement Canada
Canada

Brandon Sun June 17, 1989

Figure 2. Newspaper Advertisements of Public Meetings



Environment Canada   Environnement Canada

MAKE YOUR CONTRIBUTION TO THE RAFFERTY/ALAMEDA PROJECT DISCUSSION

GET THE FACTS

A draft Initial Environmental Evaluation has been prepared by a team of scientists led by Environment Canada. This comprehensive review of all environmental data and previous studies from a variety of sources has been further reviewed and commented on by independent experts.

The draft IEE covers impacts of the project on matters of federal interest:

international waters
migratory birds
fish
federal lands
rare and endangered species
navigable waters

MAKE YOUR VIEWS KNOWN

We will be holding the following open houses and public meetings:

Regina	**June 22**	Tuscany Room, Ramada Renaissance Hotel
Oxbow	**June 23**	Lion's Room, Oxbow Curling Rink
Estevan	**June 24**	Canadian Room, Derrick Hotel
Melita	**June 26**	Legion Hall
Souris	**June 28**	Souris Community Hall
Brandon	**June 29**	Agricultural Extension Centre

The mayor of Minot, North Dakota is organizing a similar public meeting there on June 27.

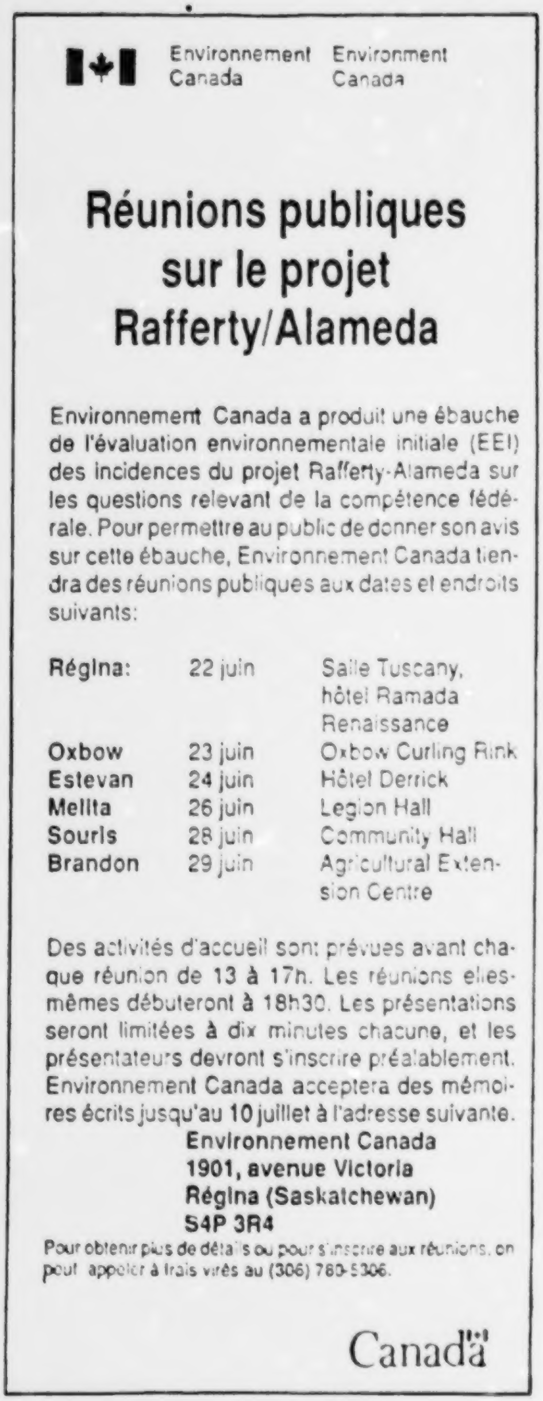
We'll hold an open house in each location from 1:00 p.m. to 5:00 p.m. to answer questions and discuss the information. At the evening public meetings which start at 6:30 p.m., we look forward to hearing your presentations and questions. Please register in advance for your 10-minute presentation. We will be happy to receive written submissions until July 10, 1989 at: Environment Canada, 1901 Victoria Avenue, Regina, Saskatchewan, S4P 3R4.

For your copy of the draft IEE summary, to register for a presentation, or for more information, call (306) 780-5306 collect.

We believe the environment is fundamental to all life – to everything that is important to every one of us. That is why we are glad to have the opportunity to clarify and review the federal environmental considerations around the Rafferty/Alameda project.

Canada

Regina Leader Post
June 15, 1989



Environnement Canada   Environment Canada

Réunions publiques sur le projet Rafferty/Alameda

Environnement Canada a produit une ébauche de l'évaluation environnementale initiale (EEI) des incidences du projet Rafferty-Alameda sur les questions relevant de la compétence fédérale. Pour permettre au public de donner son avis sur cette ébauche, Environnement Canada tiendra des réunions publiques aux dates et endroits suivants:

Régina:	22 juin	Salle Tuscany, hôtel Ramada Renaissance
Oxbow	23 juin	Oxbow Curling Rink
Estevan	24 juin	Hôtel Derrick
Melita	26 juin	Legion Hall
Souris	28 juin	Community Hall
Brandon	29 juin	Agricultural Extension Centre

Des activités d'accueil sont prévues avant chaque réunion de 13 à 17h. Les réunions elles-mêmes débuteront à 18h30. Les présentations seront limitées à dix minutes chacune, et les présentateurs devront s'inscrire préalablement. Environnement Canada acceptera des mémoires écrits jusqu'au 10 juillet à l'adresse suivante.

Environnement Canada
1901, avenue Victoria
Régina (Saskatchewan)
S4P 3R4

Pour obtenir plus de détails ou pour s'inscrire aux réunions, on peut appeler à frais virés au (306) 780-5306.

Canada

l'Eau vive
June 22, 1989

Displays provided information on various aspects of the IEE, including: flow regimes; water quality; and quantity and waterfowl management.

Public Meetings

The public meetings benefitted from the presence of a strong objective chairman. He outlined the ground rules for the evening and introduced the regional director general who spoke on the IEE and a representative of the Souris Basin Development Authority who gave a project overview.

In Regina, over 250 people attended the public meeting with politicians from both Saskatchewan and North Dakota among those who spoke for and against the project. Specific issues raised by the 27 presenters at this, and the other meetings, are summarized in a subsequent section, and the transcripts are found in Annex A.

In Oxbow some residents attending the open house spent up to four hours with the scientists. About 180 attended the public meeting. The 22 briefs presented were all in support of the project and dealt more with economic and social impacts and the long-term viability of areas communities, than with the substance of the IEE.

At Estevan more than 280 people attended the evening meeting. Over 30 persons wanted to present, so an extra session was held in the morning to accommodate that number. Again few briefs dealt with the IEE; most were focussed on the economic benefits Estevan would realize. All but three were supportive of the project. The federal member of Parliament from the area spoke in support of the project.

Approximately 170 people attended the Melita public meeting including 30 who came from Estevan and Oxbow on a bus chartered by the Souris Basin Goodwater Group. Fifteen briefs were presented including two from Manitoba politicians who called for an EARP panel review. Mayors and reeves from the Souris Basin supported the project. The question period at Melita was extensive. Questions relevant to the IEE were raised including water quantity and quality and endangered plants.

More than 120 people attended the Souris public meeting including 20 who came by bus from Estevan. Of the 18 presentations, five were from Saskatchewan. Some Manitobans felt Saskatchewan was trying to impose their position on downstream users, and wanted further studies on the effects on Manitoba before the project proceeded. Local politicians spoke in favor of the project.

The Brandon meeting had about 90 people attending. The 18 presentations came from both Manitoba and Saskatchewan and included local and provincial politicians. Many of the presentations supported the need for further studies on the Souris River. Several people raised questions relevant to flow regimes.

At the meeting in Minot, sponsored by the City of Minot, the Environment Canada meeting team was invited to attend and listen to the views of the people there. Former State Senator Stan Wright was the moderator. State and City representatives spoke and then took questions from the floor.

The media attended both the open houses and all public meetings and, perhaps as a reflection of the openness and balance exhibited at both, provided comprehensive balanced coverage.

Overall the public meetings were well attended and a total of 158 briefs were presented.

Written Briefs

In addition to the open houses and public meetings the public was encouraged to submit written briefs describing their concerns and opinions on the Rafferty-Alameda IEE. Briefs were excepted up until July 10, 1989 and a total of 117 written briefs were received. These written briefs are presented in Annex B. Written submissions of oral presentations which were substantially different then those presented at the meetings are also included in Annex B.

Summary of Issues Raised by Public

The view of the public regarding this project are sharply divided. Those supporting the project show adamant support. They focussed their briefs and discussion on the socio-economic benefits they saw resulting from the project, for the most part ignored what was presented in the IEE. Opponents, addressed the environmental implications and the possible economic consequences.

Issues Raised in Favour of the Project

The Project was decribed by many individuals as a significant step towards the management and conservation of water within the Souris basin. The dams would improve flood protection for downstream communities in Saskatchewan and in particular Minot, North Dakota, and at the same time Saskatchewan would be able to retain its share of water, 50 percent, as allowed by the 1959 Interim Measures. By maintaining its share of water, and through diversion of Estevan sewage to the Shand Thermal Generating Station, the water quality in the river was expected to improve throughout the year. The conservation of water would also provide more during drought years. Some individuals felt the existance of the reservoirs would also promote local rainfall. Others, however, recognized that the Project would require a long term management plan with requirments for the protection of upstream wetland and the possible need to modify the Interim Measures.

Many proponents praised the mitigation planned by the Souris Basin Development Authority (SBDA). They felt the enhanced wildlife habitat through mitigation would provide increased waterfowl and deer production.

The economic benefits of the Project were identified by the majority of people supporting the Project. They described benefits in areas of agriculture (irrigation and livestock), tourism (parks, cottages developments and water recreation) and municipal water supply. The Project was seen as providing job opportunities both in the short term during construction and in the long term through economic diversification and regional development. All these benefits were seen and the United States was willing to contribute to the cost through the 41 million dollar purchase of flood protection.

The Project was seen as an opportunity to improve on the quality fo life for the local residents by removing the fear of flooding and providing water bodies for recreational use. Many of these people suggested that the human environment has been ignored in all the studies and that the majority of people in the basin wanted the Project.

Proponents of the Project disagreed with impact identified in the IEE. Many stating that the creation of the reservoirs could only improve waterfowl production and that rare plants are of little importance. In fact some of the rare plants identified in the IEE are listed as noxious weeds in the Noxious Weed Control Act of Manitoba. Exception was also taken with the discussion of the navigability of the Souris River in the IEE.

Issues Raised Against the Project

Many of the people opposing the Project called for a full panel review as described in the EARP. This position was justified by noting the significant impacts and information deficiencies identified in the IEE. Negative water quality and quantity impacts particularly in Manitoba, reduced waterfowl production, impacts on the Manitoba fishery, impacts on rare flora and fauna and loss of community pastures were all noted. In addition, many other concerns were identified which it was felt should be included in a panel review. These include: project alternatives;, evaporation loss from the reservoir and reservoir filling, wetland drainage and groundwater pumping into reservoirs; interbasin water transfer; project economics; socio-economic impacts; basin wide impacts; effect of loss of spring flushing; impacts on other organisms (reptiles, amphibians, invertebrates, etc); impacts on the "ecosystem"; secondary impacts (eg. Hg on fish eating birds); loss of natural vegetation; global climate change.

Others asked that independet studies be undertaken to assess the project and address information deficiencies. Independent study were called for as the ability of Environment Canada and/or the SBDA to conduct an unbiased assessment fo the Project was considered questionable. Many suggested that the International Joint Commission would be an appropriate body to undertake these studies.

Sustainable development was raised a number of times. It was noted that both Environment Canada and the Province of Saskatchewan are advocates of sustainable development. Yet, the sustainability of this Project had not been assessed. It was requested that an assessment of the Project in terms of its sustainability be conducted, before a decision on whether to proceed with the Project is made.

The projected economic benifits were considered questionable by many. The recreational benefits of the reservoirs were felt to have been overstated as the reservoir will seldom be full and the water will be of poor quality. The irrigation potential was questionable due to the poor quality of land to be irrigated, the cost of irrigation equipment and the availability of water for irrigation. The main industrial use, cooling the Shand Thermal Generating Station could be satisfied by air cooling instead.

The availability of information on the Project was questioned. Many individuals suggested that the SBDA had withheld information on the Project design and impacts and some suggested that the public had been misinformed about the benefits of the Project.

The value of the Project for water management and conservation was questoned in numerous submissions. It was agreed that water management was needed in the basin. The question of priority for water use and modification of the interim measures was raised in conjunction with the need for water management.

A number of individuals suggested that the project is not in the national interest of Canada. Canadians should not be allowing the United States to buy flood protection in Canada, that North Dakota residents would not allow in North Dakota for environmental reasons. Canada should not be suffering the environmental consequences of flood proofing for North Dakota. Allowing the Project to proceed would establish a bad precedent for Canada. The potential implications of the project to the North American Waterfowl Management Plan as a result of the significant loss of waterfowl production in both Canada and North Dakota was also raised as not being in the national interest of Canada. Environment Canada was seen to have been given an opportunity to show international environmental leadership by not allowing the Project to proceed as proposed.

Follow-up to Public Consultation Process

A second round of interviews was conducted with a representative sampling of those interviewed for the original issues scoping. Ten individuals were contacted, five known to support the project and five known to oppose it.

Respondents generally had favourable comments about the public meetings and the fairness of the panel and Environment Canada staff. There was little or no comment on the open houses.

Concerns were raised by respondents about the significance decision-makers might place on the relative number of briefs presented for and against the project and on media coverage of the meetings.

When asked if they had learned anything new or modified their views, most respondents said they had gained a better appreciation of various aspects of the project, but this new knowledge had not changed their fundamental opinion for or against the project.

There are no overall consensus on any outstanding environmental issues that respondents felt were not adequately addressed. When asked about options that might present an opportunity to resolve differences many of the respondents expressed an interest and stated that citizen participation would be an important component. Most of those interviewed felt that provincial cooperation would be needed, and that the federal government should continue to be involved.

Annex A

Transcript of Public Meetings

LIST OF PRESENTORS
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Transcript of Proceedings

(Meeting commenced at 6:30 p.m., Thursday, June 22nd, 1989)

MR. MILLARD: Can we come to order, ladies and gentlemen please? Well good evening, ladies and gentlemen. Let me welcome you to the first of several meetings to consider environmental impacts related to the proposed Rafferty-Alameda project.

My name is Vern Millard. I have been asked by Environment Canada to moderate these meetings. I live in Calgary, and until very recently I really knew nothing about the proposed project except what I had read in the newspapers, so I come with a totally fresh mind to the issue.

You might say, well, why am I moderating this, and I am not really quite sure myself, but in any event, it perhaps relates to my background because I did serve for an extensive period as Chairman of the Energy Resources Conservation Board in Calgary. It's an Alberta regulatory body that's responsible for the energy industry, and in the course of those responsibilities I chaired quite a few hearings. Many of those hearings had issues in which there were a variety of different points of view, and public hearings or public meetings are a means of addressing situations where there are mixed views about any kind of a project and that, of course, is what exists with respect to this project that we are going to be discussing this evening and in subsequent evenings.

Because the number of people who wish to participate, as indicated by the group here, is very extensive, and in order to ensure that all parties have a full opportunity to express their views, we have concluded that there need to be rules that we can follow to ensure that we end up with a full opportunity for participants. If we don't do something like that we end up in argument and we just don't achieve the objective of letting everyone express their views. So we have established some rules for this evening's meeting, and the same rules will apply in other centres, and what I would like to do right now is just run through those rules with you so that you will appreciate the basis on which the meeting is going to take place.

First of all, we have got to address the subject matter for this evening's discussion. The subject matter are the environmental impacts on six issues:

- international waters;

- migratory birds;

- fish;

- federal lands;

- rare and endangered species;

- navigable waters.

I should point out that we are not discussing tonight, or at the other meetings, the economic viability of the project, or economic impacts of the project, or alternate proposals. We are really discussing the environmental impacts, as indicated in the IEE that has been made available to you, on these six issues. The second rule that we believe is necessary relates to the presentations themselves. Because we have so many people that are interested, Susie Washington has drawn up a schedule of persons and organizations that will be making presentations this evening. We have asked each of these parties to restrict their comments to ten minutes. In the event that ten minutes isn't sufficient to express any person's or organization's views, that person can file a submission with

Environment Canada which will be part of the public record. It has to be filed by July 10th, and it will be available to all of the parties who will be reviewing the public record. The scientists that have completed the Initial Environmental Evaluation will be reviewing that and it will have just the same weight as if the statements were made at this meeting.

A third rule is that because, again, of the need to have fair treatment of all parties, we have got to have respect for those that are making presentations, and consequently I would ask that everyone deal fairly with presenters and not interrupt the presenters.

Fourthly, we have arranged for the meetings to be reported, the court reporter is sitting over to my left, and again that document, when it is completed in a couple weeks after the meetings have been finalized or completed, will be a public record and available to all parties. We have a busy schedule this evening, we have 26 submissions, and if time permits at the end of those presentations we will take questions that can be put to the scientists that have prepared the IEE. I would ask that we not have any smoking in the room.

Now I would like to ask Bev Burns, who's sitting on my right, who is the Director General of Conservation and Protection for the Western Region and the North for Environment Canada to comment on the process.

MR. BURNS: Well thank you Vern. Ladies and gentlemen, you have to bear with me. This is the first run at this speech, so it may not be totally polished to your expectation.

I would like to reinforce Vern's welcome, and on behalf of Environment Canada and other participating federal departments or agencies, I would like to welcome you to this public meeting concerning the Rafferty-Alameda Initial Environmental Evaluation. I propose to talk a bit about the history that brought us to today, to review the process Environment Canada has been following, and to look at what will happen next.

As you know, water management in the Souris basin has been studied for many years. Ever since settlers moved into this area, there have been discussions about how to control and make the best use of what could be described as an unpredictable water supply. I am not totally unfamiliar with this problem. I was born in Saskatoon, I have lived in several communities in southern Saskatchewan, and I have spent some time on the family homestead near Drake, Saskatchewan.

In February of 1988 the Saskatchewan Government, after completion of an IEE and public meetings, made the water management decision for the Souris River basin to go ahead with the Rafferty-Alameda project.

In June of 1988 the federal environment minister of the day issued a licence under the International River Improvements Act.

In April of 1989 a Federal Court order redefined the role of the federal government in this project. That court order required that an additional environmental evaluation be done under the Federal Environmental Assessment and Review Process, and for a number of you that's EARP.

Mr. Burns opening remarks
Regina, Saskatchewan
Thursday, June 22nd, 1989

Needless to say, there has been some considerable controversy and significant difference of views surrounding the Rafferty-Alameda project. In any case, we have been obliged by the court to provide an additional environmental examination of matters relative to federal jurisdiction. These are, once again:

- international waters;

- migratory birds;

- fish;

- federal lands;

- rare and endangered species;

- and navigable waters.

In order to commence implementation of that court order a team of scientists, led by Environment Canada, prepared a draft Initial Environmental Evaluation, which covers the impact of the project on those six matters of federal interest that I just listed. It is not a review of the entire project. Within the time constraints and information available from a variety of sources we feel it's a comprehensive, even-handed review based on good, thorough, and objective science.

Not only did federal scientists work on this review, but as a further check, independent experts did as well. The consultants working on the project were required to be objective, to have demonstrated capability and competence, to be free from any prior involvement in the project or recent executive involvement in the federal or provincial bureacracy. We welcomed these independent reviews of what we believed to be good science, and we were pleased when the independent scientists confirmed and strengthened our conclusions. The federal and independent scientists working on this project are not only top quality scientists, they are people who have their own families dependent on the environment and who share your concerns that it be in good shape for today and tomorrow. That's why they are dedicated to making this process work, and part of this process is your contribution.

The draft IEE which we have made available to you is the result of long hours of work by our scientists and independent experts, but we do need your help. We have done our best technical work. We have identified the impacts, mitigation measures, and information gaps. Now we are bringing it forward for input from the public. Not only are we holding a series of public meetings and open houses at which people can present briefs and ask questions, we are also accepting written briefs up to and including July 10th of this year.

The Rafferty-Alameda public meeting process provides an opportunity to share current knowledge, to listen further, and to address points raised. That's why, after consulting a number of interested parties, we agreed on the process outlined to you by Vern. We agreed to have afternoon open houses for information, questions, and discussions with our scientists, to hold public meetings at which people can express their views on the draft IEE, and particularly to identify any missing factors, to structure the meetings so everyone has a chance to speak and has equal opportunity people felt the best way to ensure this was to have speakers register in advance, to have one person one brief, one organization one brief, and only one appearance at the public meetings, and finally, to accept both written and oral briefs.

So what happens next? We will listen tonight and at the other public meetings. To ensure we don't miss anything a transcript is being prepared by a court reporter. We will take those transcripts, the written briefs, the draft IEE and prepare a technical document that reflects all three. We will also prepare a second volume which compiles your input both from the public meetings and written submissions. In addition, we have also asked Vern Millard to submit an independent moderator's report. All this material will be included in our August 5th submission to the Honourable Lucien Bouchard. Public help is critical to the wise use of the environment. All of us are accountable. For our part, we have produced a draft IEE. For your part, we encourage you to comment on it either tonight or in writing by July 10th. The documents that go to the Minister will reflect all the input.

Collectively, we face three fundamental challenges. In the absence of scientific or economic certainty we must decide to take action on complex problems, we must do the right things to the best that ability and knowledge affords, that we pass the management of the environment test by being judged kindly by our future generations, that we constructively focus environmental concerns to reduce polarization, misunderstanding, and extreme reactions we must help each other to do the right things through practical and constructive interaction.

After the briefs have been heard, I and the other members of the scientific team who are here will be glad to answer questions for those of you who couldn't attend the open house. I would like to introduce the other members of the team, and as I do so I would appreciate if they stand:

With us we have Ron Hofer, Inland Waters Directorate, Regina who will look after water quantity;

we have Bill Gummer, Inland Waters Directorate, Regina, who will look after water quality;

we have Peter Boothroyd, Canadian Wildlife Service from who will deal with migratory birds;

we have Greg McKinnon, Department of Fisheries and Oceans, who will deal with fish and fish habitat;

we have Allan Smith, Canadian Wildlife Service, Saskatoon who will deal with rare species, birds and mammals in that category;

Dave Donald, Inland Waters Directorate, Regina, who will look at rare species of plants;

we have Roger Baldwin, PFRA, Regina, who will deal with federal lands;

we have Derek Bjonback, IWD Regina, who will deal with International River Improvements Act, navigable waters, and the environmental assessment and review process;

we have Bob Halliday, Inland Waters Directorate, Regina who will look at the broad policy and process questions and matters relating to provincial interests, and I can handle those kinds of questions a little bit myself as well;

we have Jean-Guy Zakrevsky who will deal with any questions in French, technical questions;

we have Guy Riverin, Federal Environment Assessment and Review Office, Ottawa;

we have Ron Wallace, President of Dominion Ecological Consulting Limited;

and we have Susie Washington, President of Western Environmental and Social Trends Inc., and on that note I'll turn the meeting over to you, Vern.

MR. MILLARD: Thanks Bev. All right. I would now like to ask George Hood to come forward, and George is with the Souris Basin Development Authority, to comment briefly on the proposed project.

George Hood - Opening comments
Regina, Saskatchewan
Thursday, June 22nd, 1989

GEORGE HOOD: Mr. Chairman, Mr. Burns, ladies and gentlemen;

in my remarks tonight I would like to deal with six issues in relation to the Rafferty-Alameda project:

- its need;

- the effects of the recent drought;

- project objectives;

- a description of the project;

- a brief overview of its environmental impacts; and

- a summary of the public consultation that has taken place to date.

For those of you that are not aware, the Souris River is a prairie river system which initiates in Saskatchewan, it flows in a southeasterly direction through the Province of Saskatchewan from above Weyburn down through Estevan, from Estevan paralleling the border, and at Oxbow it turns south and goes into the State of North Dakota in the United States. It flows south in the United States until it goes through the City of Minot, and then it turns in a northerly direction and flows back into Canada, this time in the Province of Manitoba.

As a prairie river, the Souris is dependent upon precipitation, and unlike other rivers such as the Saskatchewan, it does not have mountain runoff. As a prairie river dependent upon precipitation, the Souris River has highly variable flows both from season to season, and from year to year. Approximately 80 percent of the runoff in the Souris basin is as a result of snow melt.

On average, the river floods two out of every ten years. In the remaining years evaporation exceeds precipitation. Generally, the Souris experiences high flows during the spring runoff and then, with occasional summer floods, the flows normally diminish to zero, or near zero, in the fall and winter.

The Souris basin in Saskatchewan is among the most water-scarce regions of this province, with a semi-arid climate. Evidence of this water scarcity is evidenced by fewer farms irrigating, approximately 6 per 1,000, than in other areas of the province, on average 20 per 1,000. There is very little water-based recreation, and there are frequent municipal water shortages including rationing, and I will touch on these in a moment. However, major floods have also occurred in the basin in 1965, '76, '77, and '79 which, in cumulative terms, resulted in millions of dollars of damages to personal property and farmland.

As an international river, the Souris is governed by the terms and conditions of the Boundary Waters Treaty of 1909 and the 1959 Interim Order on the Souris. The 1959 Interim Order on the Souris provides that Saskatchewan has the legal right to retain 50 percent of the annual flow in the river. On average Saskatchewan, because of the absence of dams and reservoirs on the Souris within the province, has only stored 15 percent of the flow it was entitled to, so consequently 85 percent of Saskatchewan's share was passed on for use downstream, primarily in North Dakota, but also in certain years in Manitoba.

Now in terms of the effects of the recent drought, I would just like to touch briefly on them, because they have been particularly acute for this region of the province. Within the southeastern region in 1988, as a result of a drought, there were nearly 3,800 applications for drought assistance, including 27 urban centres and 31 rural muncipalities. Approximately 600 dugouts were pumped, requiring 900 miles of temporary pipeline. The following communities engaged in water supplementation efforts, they include Redvers, Estevan, Midale, Carnduff, Oxbow, Radville, and McTaggart.

The objectives of the project are as follows. Rafferty and Alameda is a multiple-objective water project. We are attempting to achieve the following objectives, and I am listing them or enumerating them in no particular order: Recreation, we are hoping to create three new parks in the reservoirs which will include private cottage lots and the development of water-based recreation; there are sufficient amounts of water available to irrigate up to 12,000 acres of farmland; there are going to be municipal water supply supplements available; insofar as wildlife is concerned we believe that there will be more habitat for wildlife after the dams are built than is currently within the areas to be inundated; on the industrial side there will be sufficient supplies of water to cool two 300-megawatt units of the Shand Power Station; and finally, flood control, there will be flood control for Saskatchewan, for North Dakota, and for Manitoba.

There are four components of the project:

the Rafferty dam and reservoir, located 6 kilometers upstream of Estevan on the Souris River;

intermittent channelization for 16 kilometers down through the City of Estevan to a location on the Souris close to where the Shand Power Station is being constructed;

the Rafferty to Boundary diversion channel connecting the existing Boundary reservoir with the to-be-constructed Rafferty reservoir;

and the Alameda reservoir located 3 kilometers due east of the Town of Alameda on the Moose Mountain Creek.

You should be aware of the fact that the Alameda dam was first proposed in as early as 1907. Rafferty as early as 1932. Currently, there are at least 40 dams in the Souris basin in Saskatchewan, North Dakota, and Manitoba. 21 of these are used exclusively for wildlife purposes. They are owned and operated by the United States Fish and Wildlife Service. There are also 10 dams on the Souris basin in Saskatchewan.

In 1940 the International Joint Commission examined the Souris River, and again it studied it in 1959. In 1940 the International Joint Commission reached the following conclusion about the Souris. It stated that reservoirs in the Souris River, and I quote verbatim:

> "are valuable as a long-range means of regulating flow on this unusually variable stream. Without this means of conserving water, all these interests would suffer in periods of natural low water flow, and it would not be possible to release water to Manitoba even to the limited extent needed for human consumption and stock watering."

I would point out to you that in 1988, as a result of the Boundary Waters Treaty and the '59 order, the only water Manitoba received on the Souris came from releases from dams in North Dakota.

I will touch briefly on some of the environmental considerations. Water quality is, at present, very poor. Because of the absence of runoff, the quality is below standard. We anticipate that, in all likelihood, water quality will improve after Rafferty-Alameda is built.

We believe that all dams are not bad for the environment. If this was the case, why would the Fish and Wildlife Service be operating 21 in the State of North Dakota?

We are planning on inundating a very small portion of the valley. Rafferty will inundate 25 percent of the Souris valley, Alameda 15 percent. The vast majority of both valleys will not be inundated.

Our mitigation program is unprecedented in Canadian history for water projects as a percentage of total project costs. We have committed ourselves to no net loss of wildlife habitat, a precedent and a commitment which is unsurpassed in Canada. We plan on achieving this no net loss through the acquisition of up to 61 quarter sections of land surrounding the reservoirs.

I will conclude my remarks by enumerating some of the public consultations that have taken place on this project. There have been numerous studies, as has been alluded to by the Chair, over the course of the past 50 years or so. However, since 1986 when the Rafferty project was started, over 700 meetings with individual land owners have been held to explain the implications of Rafferty-Alameda to the people most affected, the land owners. As well, over 150 meetings have been held with interest groups, the public, and muncipalities.

With that, Mr. Chairman, I think I will conclude my remarks.

MR. MILLARD: Thanks, Mr. Hood. Well we are now at the point where we can start asking individual submitters to come forward, either using the microphone that's in the aisle there, or the podium. Before doing so, I just again wish to remind you that we are talking about environmental impacts, and we are asking everyone to stay within the 10-minute rule.

The first person on the list is Premier Grant Devine. Mr. Premier, would you mind coming forward please?

PREMIER GRANT DEVINE: Thank you. Mr. Chairman, Mr. Burns, officials of the Saskatchewan and Canadian governments, ladies and gentlemen; I am pleased to be here this evening to speak on behalf of the Province of Saskatchewan in support of the Rafferty-Alameda project.

I'll premise my remarks by saying I am here tonight wearing several hats; first as a Member of the Legislative Assembly for the Constituency of Estevan; second as a former faculty member at the University of Saskatchewan; and third, as Premier and Minister of Agriculture in the Province. My brief remarks tonight will point out that from all of these vantage points there is substantial cause for sound and safe water management, and a lot of support for this project.

As you can imagine, as Premier of Saskatchewan, I am concerned about the environment and I believe that we can improve the environment in this project. I am also concerned about the security and the well-being of my people, not only my constituents but the people of the province, and I am concerned about the fluctuations in the cycles of things that we have to face often beyond our control.

Briefly put, we have had an unacceptable environmental condition in southeastern Saskatchewan for decades; an environmentally-damaging water system that severely hurts people with flood and then turns around and equally damages them with mud and drought, which includes wildlife destruction. We now can have a positive impact on this unacceptable environment and add to the quality of life and to the quality of nature at the same time.

Premier Grant Devine
Regina, Saskatchewan
Thursday, June 22nd, 1989

Flooding is serious business on the Souris in Saskatchewan and elsewhere. The Governor of North Dakota is here tonight, and he will speak for thousands of people in his state who have lost millions of dollars in damage. Similarly however, drought is dangerous and costly to Saskatchewan. We are encouraged by federal taxpayers to better drought-proof our province. Well we want to, and this project helps us to do that. When the Souris is not flooding, then it often turns to mud. Fish die, ducks die, communities ration water for people and for livestock, the quality of life along the riverbed degenerates. We have let the water slip away, and often too fast.

As you can imagine, when I was first elected as MLA for the Constituency of Estevan many people who lived near the Souris valley approached me about the development of Rafferty-Alameda to change this local environment to protect them. They said that a dam on the Alameda was first proposed in 1907, and Rafferty as early as 1932, and for several generations people living along the banks of the Souris have wanted a chance to manage the river. They implored me to help them have that chance. They told me it was a project that meant better water management and better environment. They also told me there were economic benefits, and we are not going to talk about those tonight, but they told me it could help them build a future because they felt safer and more comfortable against both flood and drought, and with the wildlife in the area.

These people knew then, and they know now, that the Souris River is either flood or mud, both not environmentally all that comfortable. It frustrates them to stand helpless in the spring and watch the water rush by knowing full well that come summer, they will be rationing to conserve every last drop of rainfall. These people told me time and time again that we need to be able to harness this water and the environment to provide them with stable long-term water supplies.

As you have just heard, about 85 percent of the water now passes into North Dakota and on into Manitoba, and we can have 50 percent of it. We are the only Canadians who can save it. It starts here, and as Canadians, we are entitled to save it. It's ours, and we need it for legitimate environmental, economic, and social reasons.

No water project of this nature in Canada has been designed with as much attention to wildlife habitat and environment. Wetlands will be built and mitigation programs will be undertaken to safeguard the wildlife and its habitat. A firm commitment has been made that there will be no net loss of wildlife habitat, and there will be year-round water for people. Environmentally sound. The benefits of a stable and secure water supply coupled with lower cost inputs for all kinds of things, including electricity, can stimulate diversification and protect the local community. We can protect our environment and we can protect our livelihood and we can diversify.

This project will bring many things to Saskatchewan, and the benefits will filter across the province. If the Chairman will allow me, I would like to quote a Saskatchewan Premier, and this was quoted in the Leader Post about a project, and I quote:

> "This project will mean a great deal to Saskatchewan in terms of crop diversification through irrigation, the generation of hydroelectric power, the provision of adequate water supplies, flood control, recreational benefits. The project is multi-purpose. Neither electricity, nor the irrigation, nor the water supply made available would maybe be sufficiently valuable alone to warrant the cost of construction, but together they make it very worthwhile."

Now that Premier could have been me, but it wasn't, it was Tommy Douglas justifying Gardiner dam in 1957 with 140 miles of water.

Premier Grant Devine
Regina, Saskatchewan
Thursday, June 22nd, 1989

Well still, whatever the benefits of Gardiner dam, the one important factor that was overlooked in 1957 was its impact on the environment, the reason that we are here today. In 1989 we cannot overlook the environment, and we will not overlook the environment, and we have not overlooked the environment. We will meet all local, federal, and international requirements, and be very happy to do so. Water quality can be maintained and improved. Wildlife habitat can and will be improved for both waterfowl and fisheries. Similarly, rare and endangered plants located in the area are also located elsewhere in Saskatchewan.

We recognize the potential impact of this type of project, and have allocated more than 35 percent of the overall project budget to address environmental issues. We also recognize the need to continue to monitor the environment from the beginning of construction through operation and for decades to come, well into the 21st Century, as the environment itself continues to change.

Well, Mr. Chairman, just let me just say in summary that we believe that the environment as it exists, and has existed for some time in the Souris basin, can be improved. We believe that we can improve the water, we can improve it for people, we can improve it for wildlife, we can improve the quality for Canadians and Americans. The people of Souris basin have studied its benefits and they have been encouraging water management for years.

Mr. Chairman, the people of southeastern Saskatchewan ask only for common sense and fairness. It wouldn't be fair to deny them water management and environmental protection that the rest of the province now enjoys, and I don't think it would be fair to deny them all the benefits that Tommy Douglas talked about in terms of irrigation, diversification, tourism, recreation, as well as improved environment. I don't think it would be fair to deny them, as Canadians, the water to which they are legally entitled.

For almost three generations the people of the Souris have dreamed sincere dreams of harnessing the river and managing the hazardous environment. Now we have the opportunity to fulfill that dream for the generations to come. Please, let's not let this opportunity slip through our fingers.

MR. MILLARD: Thank you Mr. Premier. We now turn to the Governor of North Dakota, Governor Sinner.

GOVERNOR SINNER: Thank you, Mr. Millard and Mr. Burns. Unfortunately, my name is Sinner.

MR. MILLARD: Sorry.

GOVERNOR SINNER: Some of us admit it, and some of us don't.

I applaud your opening statements. I think they are both sensitive, and realistic. I have given you a printed statement of some technical information that should be in your file. I simply want to make some general statements about the project.

First, I want to thank you for your kindness in allowing me to come here as a North Dakota Governor and tell you, briefly, what this project means to us and to our people.

Let me also say that I appreciate the efforts of Environment Canada to help us develop the best possible results for the overall environment. We know that we must try to solve the problems of the people of the Souris basin, and we must do it in the most environmentally sound way we can. The people in my state have already spent three quarters of a billion dollars on clean air control of their stack emissions; I think we have the only no net loss law on the North American continent; we have the first and only management agreement with Fish and Wildlife Service of the United States to try to handle, in a thoughtful way, the maintenance of our fish and wildlife habitat. I think we understand the importance of doing this environmentally sound.

Governor Sinner
Regina, Saskatchewan
Thursday, June 22nd, 1989

I love to quote Albert Schweitzer, and if you will bear with me, let me read a paragraph or two of a great statement of Albert Schweitzer. He said:

> "The fundamental fact of human awareness is this: I am life that wants to live in the midst of other life that wants to live. A thinking man feels compelled to approach all life with the same reverence he has for his own, thus all life becomes a part of his own experience. From such a point of view, good means to maintain life, to further life, to bring developing life to its highest value, evil means to destroy life, to avert life, to keep life from developing. This, then, is the rational universal and basic principle of ethics."

There are a lot of other things that Schweitzer said in that piece. I don't think he ever suggested that there was anything inferior about the human quality or the human need. He did, however, point out that we must, in fact, be very sensitive to all of living things in our environment.

We have tried mightily to find the best possible solution to the incredibly difficult consequences of the flooding to human life, and other life as well, in the Souris River. We have tried to match those solutions with the greatest possible respect for other forms of life, human and otherwise, that will be affected by the solution, and God knows it isn't easy, and that there are no perfect solutions.

I want to add, also, that we will humbly and honestly tell you that we have done the best we can, and that we will accept gladly any improvements in the plan that you can provide us. We plead only with you to help us get a solution that we can move forward with.

Let me show you just a few pictures of the flooding that has occurred in Minot. It is serious, it is frequent, and it is very, very difficult for people to live with on an ongoing basis. There is a picture of the '75 flood. I will leave these with you. There are a whole series of pictures, that are not very legible for people in the audience, of the '74 flood, and I won't bother going through them, but they will give you some idea of what it was like in '74.

The more serious of the floods in my lifetime, and I was Chairman of the Board of Higher Education in North Dakota when this flood occurred in '69 when the university there, much of it was under water as you can see in that picture, much of the land in some of the low-lying residential districts were under water, and here is some of the other area, many of the homes were under water.

There are no easy solutions to this problem, but we must have a solution. It seems to me to be intolerable to not deal with finding a solution, but it's equally intolerable of us to not find the best possible environmental solutions, and we applaud your efforts to try and help us improve that situation.

We are grateful for our great friendship with Canada. We try to face problems honestly, squarely, and openly, and solve them in a way that is useful and helpful to people on both sides of the boundary. We have a working agreement with Saskatchewan, we have a working agreement with Manitoba to meet regularly to solve our problems, and I must say that Premier Devine, Premier Pawle and Premier Filmon have all three been extremely good to work with, and we do our level best to solve problems. We are committed to continuing that good relationship. We are sensitive, as I mentioned, to environmental concerns and will work with you to improve any parts of this project that we can, but we have tried hard to deal with them.

I want to point out, too, that it is very important that we look at a long-term frequency flood control. I think we have all seen the folly of dealing with a short-term solution, a less than 100-year frequency flood control. Such efforts only add complexities to the long-term solution and end up having to be changed or altered, and cause more problems, and sometimes more environmental damage.

In short, Mr. Chairman, we welcome all the help we can get in seeing this problem through in the best form possible for all life that's affected by it.

I want to thank you ardently for your kindness in letting me appear here, your people have been very hospitable and I am very grateful. Thank you very much.

MR. MILLARD: Thank you, Governor. The next person is Rod MacDonald?
ROD MacDONALD: Mr. Chairman, Mr. Burns, ladies and gentlemen;

It is my understanding that the purpose of this meeting is to allow you to receive public input on the federal government draft Initial Environmental Evaluation, or IEE, of the Rafferty-Alameda project. My comments tonight will focus on the relationship between the initial evaluation, the process of environmental assessment, and the decision Mr. Bouchard must make as to whether or not to refer this project to the Federal Environment Assessment Review Office, otherwise called FEARO.

The IEE, the results of these meetings, and other information will be the basis of his decision. Under EARP the Minister must refer the project to FEARO for a full review if:

1) There are significant environmental impacts, and/or

2) There is significant public concern resulting from the proposal.

There is no question that there are negative environmental impacts. The IEE has categorized the impacts as significant and moderate. How can that value judgment be made when the initial evaluation confesses that all information is not yet available? That kind of judgment should only be made after the facts are known both as to actual damage and obtainable replacement or mitigation.

Let us remember that this proposal will destroy approximately 57 kilometers of valley that took thousands of years to develop by nature, so thoughts of mitigation in a 25-year or 50-year plan have to be put into that perspective. If my house is demolished for a highway we can properly talk about mitigation, you can build me a new house, you could replace my yard, you could plant new grass for me. These ideas, however, do not translate well when you consider the devastation here. The executive summary of the Initial Environmental Evaluation refers to the possible mitigation of some impacts. Mitigation, by definition, does not mean undoing the damage, it really just means lessening the damage. We still must ask, and we must learn, lessen it by how much and at what cost.

When considering the concept of assessment and notion of mitigation I refer in my report, which I'll deliver to you in writing at the conclusion Mr. Chairman, the comments of Mr. R.E. Walker of the Saskatchewan Government. They are attached to my remarks and are dated in July of 1986. Mr. Walker, an employee of the Saskatchewan Government, in reviewing the Rafferty-Alameda project at that point, says virtually all identified disbenefits of the proposed development are certainties, many of the anticipated benefits and mitigation are speculative, either assumed to be forthcoming or merely opportunities requiring considerable time and investment before they can be realized. This situation does not facilitate a fair comparison of the development's implications, we have to know what's being given up in exchange for what we are going to get.

When considering these concepts, it is my submission that the quality of the process of evaluation is directly related to the quality of the evaluation itself. If the evaluation of a project is done poorly, how can one expect the results to be accurate and credible? Surely matters of environmental assessment must be conducted with an eye on the concept of public trust. The environmental evaluation, I submit, should therefore consider the matter of public concern over the project, because that matter is one of the two things upon which the Minister must base his decision in due course.

Rod MacDonald
Regina, Saskatchewan
Thursday, June 22nd,

Clearly, the fact that there is great public concern is self-evident here tonight. I think we must ask why? It's my submission that the public concern reflects a public distrust of the assessments, evaluations, and conclusions reached by the Government of Saskatchewan. Further to this, I want to make the following points, and to provide you with copies of some documents that relate to it. I won't go through all of the documents, Mr. Chairman, you have got a long evening ahead of you. The points are a few.

Number 1, the Government of Saskatchewan committed to this project, that is, this design, this proposal, no alternatives, before full assessment, and then in fact refused to consider alternatives, and in that regard I have attached a letter from the Saskatchewan Water Corporation, from Mr. Kellow in October of 1986, and I refer you to paragraph 2. He says no alternatives, it's this project or nothing.

The Souris Basin Development Authority knew that the EARP guidelines of the federal government should apply, and the fact that arrangements were made by SBDA to extract a federal licence without EARP is now a matter of public record.

Number 3, it was the SBDA's strategy to push this project as far as could be done before involving other levels of government, or indeed the public, and I have attached letters from Mr. Hood, from whom you have heard tonight, to Mr. Walker dated in 1987 and '86.

The public concern relates to other submissions that you will hear later, Mr. Chairman. You will in later meetings, and I suspect later tonight from looking at the list, receive information on specific areas of study, and you will hear from groups and individuals who say the project can't and won't provide the things the proponent says it will. I recommend to you, when you hear those things, the words of Mr. Walker as reflected in his memo of the 18th of July and attached to my remarks.

There have been significant design changes to this project which have been announced publicly, but the Souris Basin Development Authority has refused to provide details. A full and complete disclosure of current design is essential if proper evaluation is to be done. Effects of this project on an affected oilfield in the valley is not satisfactorily detailed in the Saskatchewan study, and details of expected impact and mitigation affect every area of federal concern as identified in the environmental evaluation.

The public concern, which is an important element which the Minister must consider under EARP, ought to be reflected in the Initial Environmental Evaluation. The public distrust of the conclusions reached by the Government of Saskatchewan is because we don't have access to all of the information, and because we never had a role in the decision-making process, and because we don't at this point even know exactly what the project is, and further because we have asked the Premier and his government to look for workable alternatives but they have so far refused. In that regard I wrote to the Premier on the 5th of April, 1988 inviting him to do just that.

The Rafferty-Alameda project has come, in my view, to symbolize the conflict that develops when the project proponent addresses only its own interests and fails to take into account the interests of others.

Mr. Chairman, the fate of the Souris valley hangs in the balance. Thank you.

MR. MILLARD: Thank you. Mr. Lyons?

BOB LYONS: Mr. Chairman, Premier Devine, ladies and gentlemen, Governor Sinner;

I would like to start off tonight by saying that, contrary to the perception of some, we in the New Democratic Party caucus are not opposed to either water conservation, water management, or flood control. We are, however, opposed to the granting of a licence for this particular project, and we will take a few moments to outline Mr. Chairman, if we may, the reasons for the objection.

Mr. Chairman, ladies and gentlemen, on April 10th of this year the Federal Court of Canada judgment quashed the initial licence granted under the International River Improvements Act, and required that the environmental assessment and review process be followed. The Initial Environmental Evaluation and these hearings are part of that review, and I want to say here tonight that we think that given the short time available to the officials of Environment Canada, that this Initial Environmental Evaluation had a great deal of work put into it, and contains a great number of issues that we think are pertinent to be raised, and we want to congratulate the officials on that.

I also understand, Mr. Chairman, that today an appeal by the Province to quash the original ruling was quashed and that this process will go on, and we are glad to hear that.

Now the initial evaluation document identifies a lengthy list of adverse impacts on wildlife and the landscape, and there are groups here tonight who are opposed to the project and whose spokesman are better able than I am to deal with these subjects, so I will leave that to them.

Since these hearings are being held primarily to review the draft Initial Environmental Evaluation, I want to devote some time to the evaluation efforts that have gone on so far because quite frankly, Mr. Chairman, I, and we in the New Democratic Party, believe that they have been flawed.

To begin with, it is our contention that we had a political decision made to launch this project and to locate it on the proposed site. The original Environmental Impact Statement was then prepared by the proponent, and it was designed
to give the project a boost rather than thoroughly assess its impact on the environment.

Because, Mr. Chairman, parts of the federal review process seem to be relying, to some extent, on the provincial Environmental Impact Statement I want, in the limited time I have, to demonstrate some of the flaws in that document.

Both the provincial Environmental Impact Statement and, to a great extent the Initial Environmental Evaluation, do not deal with the question of ground water pumping from the underground aquifers in order to fill the reservoirs. Ground water pumping in the area has already been started, according to the Provincial Government and to the land owners in the area, to supplement the cooling water in the Boundary dam reservoir, but in a letter dated February 26th, 1987 from the President of the Saskatchewan Water Corporation, Mr. McLeod to Mr. Hood, who has made his presentation tonight, it is clear that the Souris Basin Authority has made a proposal to the Water Corporation to pump out aquifers to help fill the Rafferty reservoirs. I have also attached statements by the Deputy Premier in the Legislature of Saskatchewan where the Deputy Premier has confirmed that ground water pumping is, in fact, an integral part of this particular project.

Secondly, Mr. Chairman, given the fact that both the engineering firm of Cochran Lavalin, and also I noted today that the draft IEE, have examined the Souris River flow data back to 1912 and concluded that it will take 43 years to fill the Rafferty reservoir with normal runoff, I can understand the desperate search for other sources of water, but I want to say, Mr. Chairman, that we are strongly opposed to aquifer pumping in order to come up with water for the reservoir, and quite frankly, we are also greatly concerned that this project may be authorized without any regulatory or review body having assessed the effects of large-scale aquifer pumping, despite the fact that we know that it was proposed at least as early as February, 1987, and since this pumping will very likely affect and alter the composition of the water which ultimately passes over the international border, I think this ground water pumping should be examined by Environment Canada.

As well, we also -- I want to say here now -- do not support any inter-basin transfer of water to fill the dam as the original licence issued by the former Minister of the Environment has -- would have granted.

Now the Initial Environmental Evaluation done by Environment Canada lists a lack of up-to-date hydrology data, insufficient information about fish habitat, rare plant species throughout the length of the valley have not been identified, inadequate information about the effects of flooded habitat on hawks and Baird's sparrow, and more data is required about the effects on waterfowl if the dams are built. International water quality we believe, and so does the report, would also be a problem should the dams be built. The department's evaluation on page 21 of the summary says that low oxygen levels in the reservoir will mean fish kills would be common particularly in late summer and early fall, and the water in the reservoir would be shallow and stagnant for long periods of time. High rates of evaporation will concentrate nitrogen and phosphorus, promoting algae growth, and quite frankly after a time we may have difficulty meeting the kind of international water quality obligations and objectives that I think everyone in Saskatchewan wants in order to be good neighbours both with North Dakota and with Manitoba.

But, Mr. Chairman, perhaps, however, the most major flaw of the environmental assessment process is something alluded to earlier by earlier speakers, and that's the lack of an alternative to the project itself. We ask ourselves, can the objectives of flood control, water conservation, and water management be achieved in other ways, other than the building of the Rafferty-Alameda dams? We happen to believe that there are, Mr. Chairman, and that in any environmental review, whether of this project or not, all available options to achieve stated objections should be evaluated. This has not been done in the case of Rafferty-Alameda.

To conclude, Mr. Chairman, we believe that there is a better way to go than 40 years mud flats followed by algae blooms. We can save the wildlife habitat in the Souris valley, and we can cut down the downstream flooding in an ecologically-sound way. We should be enhancing and developing our wetlands rather than draining into the Souris system. Too much of the land already, between Regina and Estevan, has been completely denuded of wildlife habitat. It would be wrong, simply wrong, to strip yet more of it away. We can also improve natural water catchment sites in the course of coulees feeding into the Souris valley, and in the valley itself a series of small off-stream impoundments could be built to reduce the potential for flooding and enhance the immediate surroundings by utilizing the potential of the valley and not by destroying it.

In conclusion, Mr. Chairman, that's why we are convinced, particularly given the trilateral nature of this project, that there exists sufficient evidence of the need for formal hearings as contained, held because of, again, the trilateral nature of the project under the auspices of the International Joint Commission. We think that that is the route to follow.

Finally, ladies and gentlemen here, just let me say this on a personal note. I have driven through and along the Souris valley, I have walked by that river, particularly by Dr. Mainprize Park, and I have spent many hours simply enjoying nature in that particular beautiful valley. The Souris River valley deserves a better fate than to be slowly covered with water and to sink forever beneath our consciousness. Thank you, Mr. Chairman.

MR. MILLARD: Thank you, sir. Mr. VanEs, Peter VanEs?

PETER VANES: Mr. Chairman, Mr. Burns, ladies and gentlemen, my name is Peter VanEs, I am the Deputy Minister of the Department of Environment and Public Safety for the Province of Saskatchewan. It's my department which is responsible for administering Saskatchewan's environmental assessment legislation. In appearing at this public meeting, I wish to briefly describe Saskatchewan's environmental assessment process and regulatory requirements as they relate to information in the draft initial environmental statement or evaluation.

Mr. Chairman, in Saskatchewan, major development projects like Rafferty-Alameda are subject to approval under our Environmental Assessment Act. In these situations, it is the responsibility of the project proponent to undertake the EIA studies and document pertinent information in an impact statement. Project data is subject to both technical and public reviews before any decision is rendered as to whether the project may proceed. If a project is approved, it may proceed subject to any conditions of the provincial approval and the requirements of the licencing procedures.

As you are aware, Mr. Chairman, with respect to the Rafferty-Alameda project, the proponent undertook complete environmental studies and submitted a lengthy Environmental Impact Statement. The EIS was critically examined by both provincial and federal agencies before being released for public review. For the Rafferty-Alameda project, the public review period was extended beyond the minimum term required by the legislation and a Board of Inquiry was established to hold public meetings with respect to the project. The information submitted by technical review agencies and comments from the public were considered in reaching the decision on the environmental acceptability of the project.

Mr. Chairman, on February the 15th, 1988 the Rafferty-Alameda project was approved under the Environmental Assessment Act by the Saskatchewan Minister of Environment and Public Safety. The approval did not simply state that the project could proceed, but imposed 23 conditions designed to ensure, further, the environmental acceptability of the project.

Mr. Chairman, with respect to the federal involvement in the provincial EIA process, I would like to quote from the page 3 of the draft IEE wherein it is stated:

> "This federal input to the provincial environmental assessment and review process was deemed appropriate and adequate by Environment Canada for addressing matters of federal interest, and therefore was considered to have met the intent and requirements of the federal EARP Guidelines Order."

Notwithstanding that statement by Environment Canada you have been asked, Mr. Chairman, to receive public comments on the draft IEE prepared by Environment Canada in accordance with the EARP Guidelines Order.

Mr. Chairman, I would like to point out that the draft IEE relates to information included in the proponent's impact statement but does not take into consideration either Saskatchewan Environment and Public Safety's conditions of approval, or the requirements of ongoing licencing and permitting procedures. Bearing this important fact in mind, I wish to describe the conditions of the provincial approval which relate to items which are identified in the draft IEE as being deficiencies.

Mr. Chairman, with respect to water, condition number 2 of the provincial approval requires that the proponent submit a detailed water management plan for the Souris basin in Saskatchewan. This plan, which would be based on up-to-date data, will consider reservoir operating procedures, water supply demands and uses, and ecosystem management. It will also include recommendations and proposals for the implementation of mitigative and environmental protection measures.

Condition number 4 of the provincial approval requires that the proponent develop and implement a program of monitoring water quality in the Souris basin in Saskatchewan. Water quality information is used in our ongoing discussions with North Dakota respecting establishment of mutually agreeable water quality objectives.

Peter VanEs
Regina, Saskatchewan
Thursday, June 22nd, 1989

Mr. Chairman, with respect to fisheries, condition number 19 of the provincial approval requires that the proponent develop a fisheries management plan for the Souris basin.

Condition number 20 requires that the proponent monitor mercury levels in fish collected in the reservoirs and downstream areas.

Mr. Chairman, with respect to wildlife, condition number 15 of the provincial approval requires that the proponent provide unit-for-unit replacement of wildlife habitats which will be lost. This requirement relates to all wildlife, including waterfowl.

Mr. Chairman, with respect to rare or endangered species, condition number 16 of the provincial approval requires that the proponent develop and implement plans for mitigating any negative impacts the development may have on rare, threatened, or endangered species. The required plan will address both plants and animals.

Mr. Chairman, in addition to these requirements, the provincial approval imposes several other conditions designed to ensure that the Rafferty-Alameda project is constructed and operated in an environmentally-acceptable manner. For the record, I have attached a copy of the provincial approval to this submission. As you can see, Mr. Chairman, conditions imposed by the provincial approval address many of the deficiencies identified in the draft IEE as they relate to Saskatchewan. Any remaining deficiencies identified in the draft IEE relate to matters beyond the jurisdictional authority of the Province of Saskatchewan.

I appreciate having the opportunity to address this hearing, Mr. Chairman. Thank you.

MR. MILLARD: Thank you, sir. Mr. Martin

Kenney? Mr. Kenney? Okay. We will take a brief recess, let's say about five minutes.

(Meeting adjourned at 7:38 p.m.)

(Meeting reconvened at 7:51 p.m.)

MR. MILLARD: Can we come to order, ladies and gentlemen, please?

Two points. Those sitting in the back, there may be some problems in hearing, and there are seats in the front where it will probably be better.

Secondly, I have had a complaint with respect to the wearing of hats in the room. Since they are promotional to some degree and we have prohibited placards, I would ask the people who are wearing the hats to take them off in the interests of the other people, please.

Martin Kenney is not going to be with us this evening, so we will go on to the next speaker, Lorne Scott. Is Mr. Scott present?

LORNE SCOTT: Thank you, Mr. Chairman ladies and gentlemen. I appreciate the opportunity to comment on the draft initial evaluation of the Rafferty-Alameda project.

I have been following the Rafferty-Alameda project since it was announced over three years ago. Shortly after the project was announced, three major areas of concern were identified; one, the impact on upstream wetlands; two, the loss of unique valley habitat to flooding; and three, impacts downstream from the project. The fact that the Environmental Impact Study done by the Souris Basin Development Authority chose to ignore the upstream wetlands and downstream impacts means these two areas of concern remain very real. The Souris Basin Development Authority's EIS also failed in adequately addressing the loss of wildlife habitat and native flora and fauna that would be directly affected by the dams and reservoirs.

The six areas of federal responsibility that were identified by Environment Canada for consideration under EARP in the draft report coincide with many of the concerns expressed by myself and many other organizations.

Number 1 is international waters. I fully support the statement on page 3 of the draft summary report which says:

> "The federal government is obligated to ensure that water quantity is maintained and improvements or control structures do not adversely affect downstream users, in this case, North Dakota and Manitoba."

The fact that up to 22,000 ducks could be lost annually in North Dakota, and the fact that in Manitoba impacts to rare and endangered species are unknown because there is little available baseline data clearly indicates that the Rafferty-Alameda project will and could have far-reaching impacts downstream in North Dakota and Manitoba.

The second item is the migratory birds and their habitat. This is a major concern, not only with respect to the direct loss of 4,300 ducks in Saskatchewan each year and up to 22,000 in North Dakota. Some 40,000 acres of permanent and semi-permanent wetlands are located in the upper reaches of the Souris basin in Saskatchewan. These wetlands could conceivably be drained once the Rafferty and Alameda dams are in place. To date, the Saskatchewan Government has refused to provide any form of protection to these wetlands. With Saskatchewan's spring duck population down from 20 million in the 1950's to 11 million in 1976, to less than 4 million today, and with the billion-dollar North American Waterfowl Management Plan on the horizon being watched as an eleventh-hour effort to salvage our dwindling waterfowl populations, we cannot afford to further jeopardize our precious waterfowl resource. The number of information deficiencies pertaining to waterfowl outlined on page 27 of the draft summary are well taken, and must be fully addressed before the Rafferty-Alameda project is allowed to proceed.

The third item of federal jurisdiction is the protection of fish and fish habitat. The draft summary report clearly identified serious impacts on our fisheries resource in Saskatchewan, North Dakota, and Manitoba. It is also pointed out on page 33 that:

> "Insufficient information exists to assess the effect on fisheries of the filling period of the reservoirs and the proposed operational plan."

I certainly share these concerns.

The fourth item is federal lands. Federal community pastures contain some of the best remaining wildlife habitat in southern Saskatchewan. The federal land holdings in the Souris basin are no exception, as some are rated as critical for habitat for sharptailed grouse and white-tailed deer. Although the prime purpose of these federal lands is for livestock grazing, the native plant and wildlife value should also be seriously considered if new land is obtained to replace flooded pasture land. This important issue needs much more discussion, and consideration given it before the existing federal lands are lost.

The fifth item under the federal jurisdiction is rare and endangered species. A lot of attention has been focused on rare and endangered species on the prairies in recent years. I appreciate the interest expressed in this subject, but feel much more information is required. For example on page 35 of the draft summary it is stated:

> "...the valley is not suitable for the loggerhead shrike,..."

This is false, as the loggerhead shrike does nest in various sections of the Souris and Moose Mountain Creek valleys.

Also, the flooding of these valleys will severely impact the prairie long-tailed weasel, as they are dry land animals and do not prefer ecotones close to free-standing water as stated on page 35 of the draft summary.

I question the impacts mentioned regarding the eastern bluebird. If these valleys are flooded, the natural migratory corridor used by the eastern bluebird and other species could be permanently and seriously impacted.

The sixth item identified in the draft summary as coming under federal jurisdiction is the navigable waters and this is, indeed, clearly another federal responsibility.

I would like to commend the federal government for preparing the draft Initial Environmental Evaluation on the Rafferty-Alameda project. The report clearly indicates major environmental impacts and numerous information gaps on the areas of federal responsibility. I therefore strongly recommend that this project proposal be referred to an independent environmental assessment panel under Stage II of the EARP process.

Thank you for the opportunity to appear here today.

MR. MILLARD: Thank you, sir. Mr. Mike Bishop?

MIKE BISHOP: Mr. Chairman, Mr. Burns, Members of the Legislative Assembly, ladies and gentlemen;

My name is Mike Bishop. I have lived here all my life, and my family were pioneers in this province. We have built our homes and futures here for several generations. My firm manufactures, sells, and services oil hydraulic equipment from the sub-arctic to the United States border. We want to continue to do so.

As a small manufacturer having numerous arrangements and licences with the federal government for duty remission orders and rulings, I very much deplore seeing the precedence where, once a licence is issued, that it can be revoked through no fault of the licencee. Business plans are made on the basis of these arrangements. Never should this be allowed to happen again in business, or in the environment.

Mr. Chairman, I have conducted business throughout the Souris valley with all classes of business in the valley. I am keenly aware of how closely the society in this valley is tied to the river. Because it's important, I have made the time to discuss the Rafferty-Alameda project with the officials of the Souris Basin Development Authority. I have made a point of going to them for details of this project. My expertise is in the field of oil hydraulics, but like many others, I am conversant with the principles applied in the Authority's environmental mitigation strategy. My qualifications as an environmentalist are subjective. They are essentially those of an interested and concerned citizen of Saskatchewan, but I am not uncomfortable with the technical side of the discussion.

Mike Bishop
Regina, Saskatchewan
Thursday, June 22nd, 1989

In general terms, I believe that the net effects of the project will be beneficial to this area. Its contribution to the future, through ensuring a responsible water supply, will provide years and years of benefits. If it takes some years for this project to mature to the same level of development as Lake Darling in the United States, these will be years of incremental, sustained improvement. Lake Darling was built over 30 years ago by the people of North Dakota, who had the foresight to create that water management project. We have had the same opportunity, but lacked the foresight. Now we can proceed, confident in the example set before us, that our success will be equal or greater to that of our American neighbours.

In addition to addressing this hearing as a citizen in support of Rafferty-Alameda, I have a second purpose. It has to do with good faith and good business, the principles which govern our commercial sector in this part of the province. My business is professionally linked to the construction industry that is involved with the building of these dams and reservoirs. We have a direct concern that the equipment used be safe and reliable. The impact of an oil spill during construction is long-term and serious. When a hydraulic valve or pump ruptures, large spills can occur.

It is with this in mind that our firm agreed to supply one of the major contractors with high-spec materials that will meet the necessary safety criteria. In order to do this, we invested thousands of dollars to acquire the required production inventory. While the project is terminated, my firm is carrying direct costs. You realize, I hope, there is no compensation for those who are secondary suppliers. I am just one representative of this group of suppliers. There are many more. We are the local fallout of the buy Saskatchewan policy. We bid in good faith on a project that has been granted a licence to proceed, we assumed in equally good faith. Clearly, this was not so, Mr. Chairman. Your department would not be allowed to do business here.

Further, we recognize the responsibility of stewardship for this land, not only in the planning and development of projects like the Rafferty reservoir, but also insofar as our technology impacts on the project of proper stewardship within the scope of our industry. We committed, to both, our resources and integrity.

It is with deep misgiving, Mr. Chairman, that I see third party senior levels of government visibly involved, yet unable to provide rational or even reasonable leadership. I see no integrity or commitment of resources in what you have done. For example, the water quality in the Souris River has suffered from domestic and industrial waste for years, even though it is an international river under the jurisdiction of the federal government. You have allowed the river to continue to deteriorate and failed to become involved in your responsibility for stewardship, yet you take issue with how we handle ours.

Even more questionable is the stewardship expressed by those wildlife organizations who are criticizing this project. The Saskatchewan Wildlife Federation, through their former president and wildlife habitat chairman, has generated a tremendous amount of criticism without explaining that the organization is in the business of killing deer. Hunters in the Province of Saskatchewan kill in excess of 20,000 deer a year. Their habitat objectives are not to protect wildlife, but rather to ensure that there are enough ducks and geese for their fall recreational killing sprees. Where is their commitment to stewardship?

I am keeping mine. I honour my business commitments, and I am endorsing a highly-promising wildlife protection and habitat strategy that is part of the Rafferty-Alameda. I don't see any other commitments on the table, only complaints.

Finally, as a former officer of Her Majesty's Canadian Fleet, having served some 20 years, I cannot resist a comment on the matter of navigable waters. I see that somebody in your system somewhere thinks that the Souris River is navigable. To consider the Souris River navigable is to consider the ridiculous. You might walk on it, but you won't sail on it.

As a citizen of Saskatchewan, and as a manufacturer in Saskatchewan, I have enjoyed some involvement with the industry created by this project. When this project goes ahead, I will continue to enjoy benefits from the industry connected with it. We recognize the Rafferty-Alameda project as the first step of moving the river toward a better and more effective management for the future. Any further delay should not occur.

We have taken our responsibility very seriously. We require that you use your authority in a similar responsible fashion and rescue what remains of credibility and facilitate the implementation of a truly vital regional development initiative. Thank you, Mr. Chairman.

MR. MILLARD: Thank you, Mr. Bishop. Mr. Dickson?

GERRY DICKSON: Mr. Millard, Mr. Burns, ladies and gentlemen;

I come from the small town of Midale located eight miles north of the Souris valley, and I have come to this hearing as a firm supporter of the Alameda-Rafferty project on behalf of the citizens and Council of the Town of Midale.

Our community serves both the agriculture and petroleum industry, and we would be foolish not to look at any venture which will build on the strength and overcome any weaknesses.

Our town, like many, ran out of water last year because the Dead Lake reservoir could not supply our needs. Our town was forced, at an enormous cost, to drill a well on top of the valley not more than 100 yards from our previous supply of Dead Lake. We can assure you that this water cannot be used for lawn or garden, and is almost unpalatable. The only person in our town who smiles and profits is the man who sells drinking water to us from his truck. We believe we have regressed 40 years in our little town in the manner of obtaining drinking water.

The public involvement process in the basin has been popular and extensive. We, in our town, have participated in many of the reviews of the Souris basin, and we share with our residents its deficiencies and its strengths. We who live near the valley understand the deficiencies that are water-related, and we understand that water management will alleviate these weaknesses. Exhaustive analysis of the area has been undertaken over many years. We have had access to this work through the Souris Basin Study in the 1970's, and through the Authority's office in Estevan. Old timers in our community have talked about a dam since the 1920's, just as they did in the area around Gardiner dam, and nobody has talked about that as a detriment to the economy of Saskatchewan.

We have had a much greater opportunity than most of the people in this province to find out for ourselves what the impact of the dams and reservoirs at Rafferty and Alameda will be. Public meetings, on and off, have occurred for over a decade. There have been studies upon studies upon studies to determine the feasibility of this project.

In comparison to the James Bay project, who committed only 5 percent of their total to the environment, this project is designed to be an environmental project and have committed close to 40 percent. We don't need more studies. We need to see construction begin. Let's stop moving our mouths and begin to move some machinery.

Many of our people who live in the area have made suggestions for environmental impact mitigation and have found it highly, highly satisfying to see our suggestions in the Authority's plans. We object strongly to suggestions from outside areas, from those who have not lost property to flooding, that we have been negligent in protecting the area in which we live. Let them come and hear the passion in the voices of our people. They will understand.

The Rafferty-Alameda project represents a turning point for the prosperity of our area. Farm income and oil prices will always be driven by the market. We need diversification to combat our dependence on these elements, and Rafferty provides an option for stability. Those of us who live here care, and we care deeply. We are satisfied that everything that can be done has been done and will be done to undertake this project within the strategy that it is environmentally compatible within the area in which we call home.

We ask that this project begin so that we may reap the benefits and we ask with all our heart, we who live there, that you see fit to see our point of view so that we can see what we have dreamed about for a long time.

MR. MILLARD: Thank you, sir. Kathleen Donauer?

KATHLEEN DONAUER: Thank you very much, gentlemen.

Ladies and gentlemen, as President of the Natural History Society for Regina, we are not residents of that area, but we take strong interest in that area, because once you destroy a river, you can't ever reclaim it.

If we claim that we have made a mistake 20 years from now, you can't reverse the decision and go back and recreate the river. These hearings, now, are only Stage I of the environmental assessment review process, and I encourage you gentlemen, both Mr. Millard and Mr. Burns, to continue with this process, and to take our comments seriously, and to tell Mr. Bouchard in Ottawa that we want this to go to a full, complete, independent review process for the environment. It's most important that we continue on.

The criteria for referral by the Federal Minister of the Environment is that there has to be significant environmental impact and/or that there has to be significant public interest. In this case, the series of public meetings that have gone on to this point, the heated debates, and the personal attacks on individuals on both sides indicates that there is strong public interest.

As a wildlife biologist, having read through most of the materials that I have received over the years, which amounts to a substantial amount, there is significant environmental impact. Many have said, over the time, that there should be no net loss of wildlife. No net loss of wildlife does not necessarily mean that there is only wildlife habitat for white-tailed deer, grouse, walleye, pike, and such other game species that hunters may enjoy. Wildlife includes all those creatures that we haven't even looked at.

What about monitoring for invertebrates? I was at a meeting where they were talking about mitigation for environmental impact. I asked a question, what about sampling for small mammals, what about sampling for invertebrate populations? Invertebrates account for over 90 percent of the animal kingdom. They didn't even look at them, they never even considered them. How about invertebrate species? How about all the other birds other than the avian species? What about those that are not just rare or endangered or threatened? What about reptiles in the area? They didn't even consider those. They don't even know which ones are there. What about the amphibian population?

I was told, when I asked the question about what are you going to do to mitigate for the painted turtle, and I was told, well, do you know how far a turtle can walk? They are going to mitigate for white-tailed deer but not for the other creatures that are there.

What about the amphibians, the toads and the frogs and the salamanders that live along the river? What about the fish that are considered, not just the pike and the walleye, but what about all those creatures that inhabit an intermittent stream? To call it a river is almost a joke sometimes. What about the shiners and the dace and the chub? They don't even look at those, and they are not even considered. Pike are an insignificant species at this point because there isn't sufficient habitat for them. They would serve to introduce them, and for walleye, they would serve to introduce them on a regular basis so we have some aquatic recreation.

For wetlands, there are no written assurances that the upland wetlands of 40,000 acres will not be drained to fill the reservoirs. For rare and endangered species, over one-third on those of the COSEWIC's list are on the prairies. Many of those are in the Rafferty and Alameda drainage or wet reservoir areas. Yesterday, another 18 species were added to those of rare and endangered species.

The changes to water quality are not necessarily only those that will affect human beings, but those that will affect the whole ecosystem. You can't just talk about those things like mercury which are only of concern to humans. What about pesticides that will now dissolve into the water? What about herbicides? The mercury levels are going to rise for the next 10 to 20 years. What impact does that have on any of the rest of the invertebrate population and to the total ecosystem? They didn't even look at that, they don't know.

What about leachates from surrounding farms on the upper slopes? What does the increased evaporation have to do with increased salination? Is that going to have an effect in terms of what they want to do with irrigation? Have they looked at that? Have they looked at the problems that California is having right now with the problems of salination on their irrigated lands?

If you channelize an oxbow meandering river, you no longer make it conducive for wildlife. It's no longer wildlife habitat. If you decrease your oxygen levels, you increase eutrophication, and you change the composition of species in that wildlife area. The reservoir will concentrate wildlife with little cover for them. There will be no sedges, there will be no cattails, there will be no shrubs emerging from the waters, and then you are going to have staging areas where the ducks are exposed to hunters, and hunters will congregate, I guarantee it, they have done it before. Meandering streams are good for the wildlife, and they are also good for the habitat.

If you want flood control, I say to the Governor of North Dakota, we can show you how to make flood control by creating small side diversionary dams that only work in peak flood periods, and you create wetlands. Wetlands are the best flood control you could ever have. Small dams, wetland construction, and you have your flood control.

PFRA suggests that they are going to plant trees. Trees don't grow on the tops of hills, unless no one has really noticed, and to use an example the Gardiner dam, the Diefenbaker Lake precedent, they planted hundreds of thousands of trees, and only a very small percentage have ever survived even to this day.

We are going to improve on nature, as everybody says. We have improved our world now to the point where it's to our very detriment. How can we improve any more? We still don't know, haven't asked a lot of questions that need to be asked, and we are certainly not answering them. We talk about mitigation. We don't even know the full impacts of an ecosystem on a riparian or a riverine habitat. We don't know.

Our rivers are our most fragile environments, and we are not taking any care to look after them. They are rare. Mr. Hood talked about how many have been lost in this province already. We continue to destroy one after the other. That's not good environmental management.

The plants and the animals in that area have adapted, over a very long time, to the alternate cyclical changes of flood and drought. They know how to survive it. They have been there for thousands of years. We have only been there for a few years, and we propose to make changes to improve on nature. I doubt it. We haven't yet, we won't for a time to come.

The plants that are endangered are of national significance. This isn't just a local issue. This affects me, my family, and the families to come. If these plants occur elsewhere, what protection are you going to offer them, in writing, so that they will not be damaged in future? You are not offering to protect them now, how are you going to protect them in future?

The riparian habitat, the wildlife habitat, is vital to aquatic stabilization. It improves drinking water, it replenishes your vital ground aquifers, and it gives you something to look forward to. It controls floods, and it prevents droughts.

I encourage both of you gentlemen to consider carefully that we must go from this stage, which is just the first stage of public hearings, to go to the full environmental review of this project, and to allow for full public input, not the kind of input that I have been to where they stand up, tell us what they are going to do, and don't let us have a whole lot of say.

Please consider that to destroy this river and its habitat is to leave a legacy, for our generations to come, that we didn't make wise environmental decisions, and we were not concerned about our rivers. Thank you very much.

MR. MILLARD: Thank you. Gerry McKinney?

GERRY McKINNEY: Good evening, ladies and gentlemen, even the folks from Estevan. Glad to see you here.

I am representing Friends of the Valley. I will table, with the gentlemen here, the briefs and letters of over 70 organizations across Saskatchewan who have serious concerns about the Rafferty-Alameda, and why we are calling for an independent study, however, I'll go into a very brief text that we have drafted up for this evening.

We are responding, of course, to Environment Canada's call for public input and recommendations with respect to the proposed Rafferty-Alameda dam on the Souris River in southeastern Saskatchewan, and you know quite frankly the IEE, the Initial Environmental Evaluation, I can only agree with it. You folks did a good job for a change. We are quite pleased to see it. I can only say we agree with your findings and share your concerns with regards to potential significant adverse impacts on waterfowl productivity. We are looking at the Lake Darling fisheries in North Dakota with our friends to the south. The Governor here didn't mention them, I noticed, tonight.

Fish habitat and impacts and losses in Manitoba, the federal lands issue in the upper Souris valley in Saskatchewan, I think Don Wilkinson and some of the group that are in from Goodwater have already testified to that during the Water Corporation's complaint sessions in Weyburn.

The question of significant adverse affects on rare and endangered species, which I think we are all concerned about without exception in this room, particularly the ferruginous hawk and five plant species of national significance.

In addition, international water quality is of grave concern, along with downstream impacts on both North Dakota, and of course in the Province of Manitoba, my home province I may add gentlemen.

For your consideration, please find attached to this particular brief a fact sheet developed by the Manitobans for the Protection of the Souris River chaired by Mr. Keith Robertson, a leading member of the Progressive Conservative Party in that province, primarily drawn from the Province of Manitoba's own technical report on potential impacts of the project.

Secondly, attached to the brief you will find excerpts from the U.S. Army Corps of Engineers final Environmental Impact Study indicating seriously degraded water quality and resulting inability of the United States to meet international treaty obligations to Canada because of this project. We are talking, gentlemen, about the Boundary Waters Treaty which we used for 13 years, the 1909 treaty, to defend Manitoba from a rapacious project known as the Garrison Diversion. We finally got it halted thanks to the good will and tremendous pressure of both the Canadian Parliament and the people of Manitoba and, of course, the support we were able to win in the United States itself in the Audubon Society, and the National Wildlife Federation, and even parts of the American labour movement.

Then, of course, we have included water flow charts from the Water Survey of Canada surveys, the most recent ones that we were able to obtain, indicating zero flow in the Souris River for several months in 1988. Of course these are predated back to 1981. The previous stuff we had seen back in 1987, prior to the provincial Board of Inquiry hearings that were held throughout the whole region, only went to 1981 and we felt there was a serious deficiency, and this is why we, of course, indicated concern, and we are pleased that Environment Canada has responded to the people of the region and of the Province of Saskatchewan in this regard.

In addition, please find a letter from Dr. Jim MacNeil, former Secretary General of the United Nations' Commission on Environment and Development addressed to us here in Friends of the Valley, and who is currently a director for the Environment and Sustainable Development program of the Ottawa-based Institute for Research and Public Policy. That letter is included in your brief, gentlemen.

Before we come to our concluding recommendations within the scope of the IEE, of course, we can only express shock that at the IEE's comment on page 25 of the IEE under the heading Project Impacts Internationally:

> "In an international context, the total losses are substantial and significant and, if not fully mitigated,...",

referring to the waterfowl question, of course:

> "...would seriously jeopardize the success and credibility of the North American Waterfowl Management Plan in the Prairie Pothole region of this continent."

I just quote as a comment on this, gentlemen, the North American Waterfowl Management Plan, it was years in the making, along with hundreds of millions of dollars of public investment, taxpayers' investment. Rafferty-Alameda must not be allowed, according to the remarks in the IEE, to place in jeopardy such a magnificent project, and most of the hundreds of millions of dollars that will come into the prairie pothole region will go to farmers, farm families. I think it's all part of the agreement. I think even Premier Devine praised it here not so many months ago.

Our recommendations basically revolve around, I guess, already what has been echoed here tonight, but before I get into them I just want to mention the names of some of the support groups of our 70 organizations and the phone numbers, for example, of others that will be available to you within the report here, and I would indicate, of course, a very strong support letter from Barbara Byers, who is the President of the Saskatchewan Federation of Labour, a 66,000-member body of this province, indicating support for our call for an independent study, preferably of the International Joint Commission, to deal with all these issues of federal and international import.

Then it is followed, of course, by a letter from Una Pollock, who is President of the Canadian Union of Public Employees, Saskatchewan Division, indicating a similar concern, and her 19,000 members have expressed this, and they have already circulated some information on that to their membership across the province.

I come now to the Saskatchewan Government Employees Union and I believe George Rosenau, the President of that union, is present tonight, and he has indicated strong support, and they have issued a press release today, their 14,000 members have endorsed the position that we are taking here tonight, gentlemen.

I have here also in a position of support, potentially, a letter from the Premier, Grant Devine, of the Province of Saskatchewan, inasmuch as he had written me a letter back in October of 1988, and true to his creed the Premier does defend, vigorously, the project, and I must give him credit for that.

After all, he engineered it with the Governor of North Dakota and, you know, I guess the proof of the pudding is in the eating. However, there is one little quote that the Premier had indicated in the last project, and it's part of the submission, sir, to the board:

> "Clearly, if there are comprehensive studies conducted by similarly qualified professionals as the provincial government ones are which called into question our findings, then I would be pleased to consider them. To date none have been presented.",

and of course "Sincerely Grant Devine, Premier". With all due respect to the Premier and his office, I would indicate that -- this is in October 25th, 1988 -- since that time we have findings from the U.S. Army Corps of Engineers, (and I never thought I would see the day I would be up here saying that they have found something valid after the 13 years of the Garrison fight). However, that being said we have, of course, the Manitoba Technical Bureau, I believe the technical portion of Manitoba, Mr. Bob Clarkson is present in the audience, I think he's an old friend of mine, but anyway he is doing a job over there for the Government of Manitoba and has come in to just observe and monitor these particular hearings.

In addition, of course, what can I say about the Initial Enrivonmental Evaluation which, of course, Environment Canada has produced, which I think is a fine document as far as it goes. Then what we have to follow through from that, of course, is obviously the independent study.

I would like to conclude merely with a few comments from the internationally recognized and respected former Secretary-General of the United Nations World Commission on Environment and Development, and if I could just in conclusion, gentlemen, a letter addressed to myself, Dr. McKinney: "Dear Dr. McKinney: Thank you for your letter concerning the proposed Rafferty-Alameda project", and I'll paraphrase the portions in Rafferty if I may. "As a Canadian whose home and early career was in Saskatchewan, I read your report on the proposed Rafferty-Alameda project with great concern. The impacts on Saskatchewan seems great enough to justify a long pause while they are fully investigated, but I find it inconceivable that the downstream impacts in the United States and Manitoba have not been fully assessed and taken into account. The world can no longer afford national or 'provincial policies' programs or projects which ignore or fail to take into account their implications for neighboring jurisdictions and the global comments, in brackets. We have a long way to go to get nations to accept this principle, and it will only happen through the efforts of groups like Friends of the Valley, and others of course. Your proposal for an international review of the project before proceeding seems eminently reasonable, and I hope that the authorities concerned can be persuaded to agree with this. Yours sincerely, Jim MacNeil".

Thank you, sir.

Bob Farrell
Regina, Saskatchewan
Thursday, June 22nd, 1989

MR. MILLARD: Thank you. Bob Farrell please?

BOB FARRELL: Mr. Chairman, Mr. Burns, ladies and gentlemen;

First I feel I should make a bit of a statement in terms of I guess my position, the company's position, and interest in this project. I have been personally involved with this project through Cochran Lavalin, or one of its predecessor associate companies --

MR. MILLARD: I don't think people are hearing you, sir. Could you speak up?

BOB FARRELL: Mr. Chairman, Mr. Burns, ladies and gentlemen;

I feel I should make a bit of a statement in terms of my position and the company's position or interest in this project.

I have been personally involved in this project through Cochran Lavalin, or one of its predecessor associate companies, since about 1982. Our initial study work related to the thermal power plant site selection, feasibility studies that we undertook for Sask Power. It was through this work that the potential attractiveness of siting the power plant near Shand was realized, and that the Rafferty dam was identified as the preferred source of cooling water for that plant. This then led to further technical and economic studies that we carried out over the next several years, which ultimately culminated in the decision to proceed with construction of the Shand project and the Rafferty-Alameda dam.

Cochran Lavalin is now responsible for the design of both the Rafferty and Alameda dams, and I am the project manager for that work. The Rafferty design is basically done, the Alameda design is well along, and our corporate involvement is actually nearing completion on the projects. Clearly this representation to this committee or group cannot be an unbiased one. Cochran Lavalin and myself personally have invested too much time and effort in this project not to defend it. However, although we may be biased, the position taken is done so with the benefit of more broad-based technical and historic background on this project than I think any other single group or individual is likely to have.

Mr. Chairman, it's recognized that these hearings were called primarily to address the environmental aspects of the project. Cochran Lavalin have not been directly involved in preparation of any of the EIS material. We do not normally undertake sort of the purely environmental aspects of the work, we are an engineering firm. Our studies, however, provided much of the background data that went into the EIS. The purpose of this presentation is primarily to highlight the extensive effort that went into some of these early studies which have been somewhat unfairly maligned by certain of the groups that have been opposing the project. While I have read the Initial Environmental Evaluation draft summary, I propose to just briefly touch on certain of the specific findings, more from an environmental layman's point of view.

I personally have great respect for the need to protect our environment. My family and I have spent most of our summers for the last 20 years camping and hiking throughout Canada. I must admit, though, at times in reading the document I do have some difficulty, I guess, in placing the protection of say witch grass habitat on an equal plane with what I consider to be truly environmental and other benefits that that project can bring to that area of southeastern Saskatchewan.

I would like to provide a little bit of an overview on the studies that we did undertake related to this project, not in any technical detail, but more to defend the comprehensive and professional nature of the work.

Bob Farrell
Regina, Saskatchewan
Thursday, June 22nd, 1989

I have probably got about two bookshelves filled with either reports that we have prepared or the reference material that was available to us to undertake our work. I have been, to say the least, somewhat appalled by the line of attack that have been taken by some of the opponents to this project in questioning the validity of these and other earlier studies. Any study requires the application of judgment in drawing conclusions or making projections based on what is always limited information.

I just wish to reiterate that what has been said by others before. This project has been the subject of studies far in excess of what any comparable project is likely to have undergone. These studies have been conducted by highly-respected professional firms or agencies. These organizations are not about to risk their reputation by presenting anything other than their best professional assessment of the situation.

Cochran Lavalin undertook extensive hydrologic analyses in an effort to arrive at the most reliable prediction of the water supply potential of these reservoirs. I could describe some the hundreds of water demand supply scenarios we modeled, but I am sure it would serve no useful purpose at this meeting, Mr. Chairman, you have all that documentation available to you. All I can say is that, based on this work, the water will be there to support the proposed uses of these reservoirs. Unquestionably, this is still a prediction, as is the result of any study dealing with the whims of nature, but it is a prediction backed up by extensive professional analysis of a great volume of historic data dating back to 1912.

And I would comment on a couple of the things that have been noted by previous speakers, that drainage of wetlands was in fact, yes, considered in our engineering studies very briefly, and we were told categorically it was not to be considered as a viable alternative to this project. From an engineering standpoint, yes, it's a water supply alternative. From a practical standpoint, no, it was ruled out very quickly as not acceptable.

While the IEE draft summary recommended doing more modeling based on common updated data, I don't see this as providing significant new information that would have any impact on the basic project viability or operation. The resultant computer runs and modeling might only be useful in fine tuning some of the predictions as far as frequency of occurrence of certain events or flows.

One basic concept I think it is particularly important to understand is that the reservoirs need never be full in order to realize all of the projected benefits. In fact, from the water supply standpoint, the ideal situation is where we are continually withdrawing or releasing water for specific purposes, and maintaining the reservoir just below its full supply level. This means that we are meeting all of the water supply demands that are placed on the system, and not having to release or spill excess water simply to keep the reservoirs from exceeding that full supply level.

I would comment on, I believe it was a comment of Mr. Lyons, that studies may have been done that said it took 43 years to fill. Very likely, under those scenarios, we were withdrawing water continually over that period of time, meeting all the requirements that were placed on that reservoir, and balancing the water supply with the uses that the water could be put to. So I reiterate that that the reservoirs may never be full, and still meet every demand, every benefit that the project calls for them.

As far as the water quality issue goes, we carried out some of the initial studies that indicated that once the reservoirs got through that initial filling stage, they would be not significantly unlike most other man-made prairie lakes. Even though that water may not be like a pristine mountain lake, the reservoirs will provide welcome bodies of water for that area of southeast Saskatchewan. I would hate to think what Regina would be like without Wascana Lake, even though I may not want to swim in it.

I agree that under some conditions the water quality, and therefore quantity in the channel downstream of the reservoirs, may not be as good. This could possibly be more significant in North

Dakota. This is only to be expected, because up to now we have been passing twice as much water to the U.S. than what we were obligated to do under the 1959 interim measures. Naturally, some of their fisheries, waterfowl habitat, or other water-based requirements could possibly be negatively affected when we start to make use of that water instead of passing it through North Dakota, but with proper management and the controls the dams can provide in terms of the releases, even this potential impact can be minimized.

Similarly, the occasionally reduced flows into Manitoba could, under some circumstances, have negative consequences, but again, the rules for apportionment have not changed. The 1959 interim measures are still in effect, it is just that now, Saskatchewan will be in a position to gain the water-related benefits which include significant environmental enhancements that cannot be realized until such water control and storage structures are in place.

It should also be noted, however, that although the potential exists for some slight negative impact on channel water quality, there exists a far greater likelihood of improved quality resulting from the controlled releases that can now be made from the reservoirs during the normally dry summer months.

Subsequent to our initial studies, the Souris Basin Development Authority has had further water quality analyses carried out. The IEE draft summary recommends still further study to address the impact on Manitoba in particular. While I confess to not being any kind of an expert in that area, I do know that there is an extremely high degree of subjective input and a lot of operating assumptions that have to be made in order to arrive at any rational predictions of water quality that far downstream. I question whether this additional study would really produce meaningful results.

As well as water supply/water quality type studies, our earlier work also addressed the flood control benefits that could result from construction of the two dams. There is no doubt the largest beneficiary of flood control is the City of Minot, but the City, the State of North Dakota, and the U.S. are paying very well for that benefit. However, Estevan will also benefit from flood control. The features that are built in Rafferty will definitely be an advantage to the City of Estevan. While the strictly economic benefits to Estevan are not major, the reduced inconvenience caused by the frequent flooding is a very important consideration to people in that area.

In summary, I am totally satisfied that on the basis of the technical and economic studies that we have carried out, and the others that we have had reason to review, that it would be sheer stupidity to lose this one-time opportunity to implement this water management project. Sure, there are some negative aspects of this project, they can never totally be eliminated, but the Souris Basin Development Authority has gone to what I would almost consider unreasonable lengths to mitigate any negative impacts. They are also making every possible effort to see that every conceivable benefit can be realized from this project.

All of us that have been involved in this project from the start and have seen it evolve know just how great an asset this can be to that area of the province. I can only hope that eventually logic will prevail, and we can get on with building this project. Thank you.

MR. MILLARD: Thank you, sir. David Orchard?

DAVID ORCHARD: Thank you, Mr. Chairman.

Our organization, Citizens Concerned about Free Trade, was founded in the fall of 1985. We are a Saskatchewan-based national organization with members coast to coast, we are non-partisan, and we have members who support us from all political parties.

David Orchard
Regina, Saskatchewan
Thursday, June 22nd, 1989

Our first question here tonight basically is why the rush? 10 minutes to make a presentation of this importance on a topic this important is nowhere near long enough to do justice to it and --

MR. MILLARD: Mr. Orchard, there is an opportunity, as I said before, to file a document following that, which will receive the same kind of treatment.

DAVID ORCHARD: Yes.

MR. MILLARD: So it isn't really ten minutes.

DAVID ORCHARD: Yes, but the point is we have had half of our speakers here tonight subjected to competition from a rock and roll band next door, and rushing through a 10-minute presentation does not adequately give the kind of dignity a project of this magnitude commands.

MR. MILLARD: Ladies and gentlemen, let's just keep calm and let Mr. Orchard carry on.

DAVID ORCHARD: I would like to look briefly at some of the reasons we are being told this project is being built.

The first reason we are told is it has to cool the Shand Power Plant. The Shand Power Plant can be air cooled, there is no need for water to do it. Secondly, they have not proved a need for any more power in this province. We can purchase power cheaply from Manitoba where it's available, we don't have to destroy our river valleys to do so.

Secondly, we are told recreation is going to be a use. The proponents themselves have admitted that the fluctuations in this reservoir will be up to 7 meters, so I ask you what kind of recreation is possible with that kind of fluctuation in reservoir? It simply cannot be done. It's going to be massive mud flats along the edge and recreation, even in the words of Environment Canada's Mr. Halliday, is clearly not a priority use for the Rafferty-Alameda project.

Third we are told flood control for North Dakota is going to be a benefit. Well that's one that we agree with. It may well provide limited flood control for North Dakota, but the question is why should the Saskatchewan taxpayer sacrifice, first of all pay for flood control for the richest country in the world, which is well able to provide its own flood control, and why should Saskatchewan farmers and ranchers see their lands inundated with water when the Americans could build their own dams to protect Minot if that's what they wanted to do.

We are impressed with the frank statements of Senator Quentin Burdick who said it would only cost the United States half as much to put their money into the Rafferty as it would to build a dam on the American side, and then North Dakota would not lose any of its agricultural land or have any of the environmental problems. Tonight we were treated to the Governor of North Dakota saying he applauds us in our efforts to help them out. Well it's no wonder he does.

I would like to turn to what we consider to be the crux of the whole Rafferty-Alameda project. Because the project does not make any sense from its stated objectives, we are convinced that something bigger is going on, and what we are convinced is going on is part of a water diversion plan for the purpose of sending Canadian fresh water to the United States. This water export plan is an integral part of the Free Trade agreement between Canada and the United States, and the long-term push from certain quarters in the United States for diversion of Canadian water to the United States.

The central issue about the Rafferty-Alameda project is there is not enough water in that river to fill the reservoir. Anybody that has gone and looked at the Souris, it's a tiny trickle starting out at Weyburn, strictly snow fed, there is not enough water to fill the reservoir. The burning question is where is the water going to come from? The easiest way to get the water is simply to cut a canal over to the Qu'Appelle River system. Through easily-moved dirt, it would be a very simple project with today's technology, and then we are linked into the South Saskatchewan River via the Lake Diefenbaker project, and hence to a secure mountain-fed source of water. That's what we are convinced is going on here.

We have got up on our board here a map of the North American Water and Power Alliance. It's a huge scheme developed by the Ralph Parsons Company out of Los Angeles in 1964 calling for the diversion of massive amounts of Canadian water south to the United States, and the Souris is a key part, as you can see from all of their maps, a key part of this project. What's going on in the Rafferty is not isolated. It's part of the Oldman River project that's being built in Alberta. As you can see, the dam that is being built just outside of Pincher Creek, of course, links into the South Saskatchewan, and hence over to the Souris and down into the United States. Once the water is in the United States, it can simply be pumped over into the Missouri and then head south, and what would be inevitable, of course, is there would be a shortage of water for the downstream users of the South Saskatchewan, including the City of Saskatoon. The NAWAPA scheme, of course, calls for the diversion, first of all the damming of the Yukon and the Tanana rivers in Alaska, as well as the Peace, the Fraser and the Kootenay Rivers in B.C. to form a huge 800-kilometre long Rocky Mountain trench, from which could be drawn off 160 million acre-feet of water per year for diversion south into the dry areas of the United States of America. The Oldman is necessary to control the flows in such a system, and so is the Rafferty. The Rafferty dam on the Souris is necessary to control and stabilize flows in such a system.

The connection between water diversions and the Free Trade deal with the United States has been made clear by no less an authority than Simon Reisman, our chief Free Trade negotiator with the United States. In April, 1985 Reisman spoke to the Ontario Economic Council and said that the key to getting a Free Trade agreement with the United States was the export of Canada's fresh water.

We stand opposed, as do 90 percent of Canadians according to a recent federal study, to plans to divert Canadian waters to the United States. We fully agree with the former Northern Affairs Minister Arthur Laing who said there is no continental water in Canada, there is only Canadian water, and we believe this water must remain in Canada. Canada already diverts more water than the United States and the Soviet Union combined. The social and ecological costs of these dams and diversions is only beginning to be understood. To tie ourselves into supplying water to the United States is a trap into which Canada must not fall. Once another nation depends on us for its water, that's a tap that cannot be turned off.

Incidentally, in the United States, 80 percent of the water used is used for irrigation, and much of that is wasted, and some of that is used to produce crops that compete with our farmers, so for us to be sending water down to the United States not only is going to destroy our environment in this country, and our potential, but it simply is not necessary in the United States. Of course, it's easier for the United States to see our rivers turned south than to clean up their own polluted water.

To lose control of our rivers is to lose control of our future development as a nation. Land and water are the basis upon which the sovereignty of every nation exists.

I would like to cite, in conclusion, the words of General McNaughton, who was the chairman of the Canadian section of the International Joint Commission during the years 1950 to 1962, who fought valiantly against the sellout of Canadian water in the Columbia River project, and Mr. McNaughton referred to the NAWAPA scheme, and he said:

> "...this is a monstrous concept, not only in terms of physical magnitude, but also in another and more sinister sense, in that promoters would

> displace Canadian sovereignty over the national waters of Canada, and substitute therefore a diabolical thesis that all waters of North America become a shared resource, of which most will be drawn off for the benefit of the midwest and southwestern regions of the United States, where existing desert areas will be made to bloom at the expense of development in Canada."

We stand with General McNaughton and 90 percent of Canadians who oppose the export of Canadian water and the diversion of Canadian rivers. This whole aspect of the diversion of our water south to the United States has not gotten anywhere near the attention that it has needed to get, and it's time for that now to change, and it's important that Environment Canada, paid for by the taxpayers' expense, reflect the interests of the 90 percent of those Canadians who want water diversion stopped, they don't want them to proceed to the United States, and this whole aspect, which is not even mentioned in your initial impact evaluation, has got to be looked at and taken into account because there is something much bigger going on here than we have been told.

So we ask that this project be stopped permanently because it is contrary to the national interest and it damages Canadian sovereignty. Our brief, which contains the map of the NAWAPA scheme as well as several other supportive statements pointing out that all it would require is another drought in the United States similar to what we saw last year when the cry came up from the United States, the flow in the Mississippi was not even sufficient to carry their barges down any more, they wanted to divert water out of the Great Lakes, and the only thing that stopped them was not Canadian pressure, but pressure from the American states, Great Lake states, that put a stop to that. But all we need is another drought, and once these dams are in place the entire structure is in place, and all it needs is the pushing of the control buttons to turn our fresh water down into the United States. That is why this reservoir is being built bigger than it needs to be built, that is what is behind this entire scheme that we are seeing here tonight, so we want the thing stopped, and as I pointed out, our brief is available at the table for anyone to pick up who would like to know more about the entire issue. Thank you.

MR. MILLARD: Thank you, Mr. Orchard. Mr. Lawrence?

BOB LAWRENCE: Mr. Millard, Mr. Burns, ladies and gentlemen, my name is Bob Lawrence, I am the Senior Vice-president of Operations for Saskatchewan Power, and I would like to thank you for giving me the opportunity to present this brief on behalf of 410,000 electrical customers in the province.

I believe that, by way of introduction, I have to explain a couple of things. One, I have been employed by Saskatchewan Power for 27 years, I was born and raised in Saskatchewan, my grandparents homesteaded in Saskatchewan, and my kids are going to school here, and I believe I have a lot at stake just as some of the rest of you do.

Interesting to note that the area that we grew up in was Lucky Lake and that's an area, right now, that is being flooded by Ducks Unlimited to increase the duck population in the country, and that was my favourite hunting ground.

Saskatchewan Power's mandate and responsibility is to meet the electrical energy demands of our customers at a minimum cost with a consistent high degree of reliability. Saskatchewan Power has, for decades, recognized the importance of participating in multi-purpose projects for the betterment of the provincial economy, and for enhancing the quality of life of Saskatchewan. We consider the construction of the Rafferty reservoir supporting these objectives.

Bob Lawrence
Regina, Saskatchewan
Thursday, June 22nd, 1989

The multi-purpose reservoir would provide flood protection downstream for residents both in the United States and in Canada, water for irrigation, water for municipal users in that area, and certainly cooling water for the Shand Thermal Generating Station which is now under construction. It would also provide water for recreational purposes and tourism in the area.

In 1983, Saskatchewan Power identified the construction of the Rafferty dam as one source of cooling water for Shand. It proved to be the most cost effective option.

Saskatchewan Power is aware of the mitigation measures proposed for the Rafferty dam project. We are confident that these adequately address the environmental needs of the projects. I have been involved in major construction projects for 15 years. I have never seen the like of the number of studies and the work that was done, nothing that I know of compares to what has been done for Rafferty. Certainly Nipawin doesn't, and certainly the project Limestone in Manitoba doesn't.

The purpose of our presentation is to apprise this meeting of the importance of the Rafferty dam to the customers, that's most of us, of Saskatchewan Power. In predicting the future electrical power requirements, Sask Power uses end-use modeling techniques. These models examine, in detail, large numbers of factors which influence electrical energy needs in the province, including the effects of load management and conservation. One of the major factors in determining load growth is the provincial economy and its affect on the population growth, industrial production and the need for industrial development.

The model also recognizes the effect of the world market. This is something that's often overlooked by us, but we are certainly a function of a world market in terms of oil and potash and these kinds of things. As goes the world market, so goes the energy demands of this province.

Based on this, Sask Power develops long-term energy needs on a yearly basis. Our projections for the next ten years show the customer demand to increase by about 800 megawatts, and their energy consumption to increase by 4.5 billion kilowatt hours. This represents a compounded annual growth rate of 2.5 percent for demand, and 2.8 percent for energy consumption.

Our projection for the future compares very favourably with the rest of Canada. The ten provinces in Canada average about 3 percent, and United States about 2 percent. Saskatchewan's projections are modest when compared to the growth experience of 1988. The energy delivered in the province to our customers in 1988 was 8 percent higher than in 1987, and over the last five years has averaged 5 percent. Those are real numbers, they are available in our annual report.

Saskatchewan Power's current installed generating capacity of 2,600 megawatts includes the thermal generation units constructed in the '40's and the '50's. These things get tired and they wear out. We must replace such facilities as the Estevan Generating Station, an often-forgotten about little power plant in the valley of Estevan.

In planning the province's future generation capacity needs, Saskatchewan Power must not only ensure that it will be able to meet the forecast demand, but it must also ensure that there will be sufficient generation reserves. Saskatchewan Power has an agreement to share, with Manitoba Hydro, our reserve capacity, we have an agreement with Alberta to share our reserve capacity, and we have contracts to take into account seasonal diversity with the people in North Dakota at Basin Electric. We have considered and we do use, on a regular basis, our neighbours.

To meet your future demands and to provide for an adequate generation reserve, it is necessary to commit to major projects well in advance. It takes four years to construct a station like Shand, and it takes almost four years to go through the studies and the hearings and the review necessary to commit toa project like Shand. The relationship between load forecasts and our committed generation additions and the available generation margin is illustrated in a chart, Mr. Chairman, which I will leave when I file my brief. Without Shand, we cannot meet the demands of the electrical needs in this province.

Sask Power, as a part of its planning process in the late '70's, initiated three feasibility studies to investigate a number of options, thermal and hydro. Sask Power also held several public meetings to obtain public input. These studies were further refined in the 1980's to allow the corporation to decide how best to meet the forecast demand on a long-term basis. In spite of the addition of the Nipawin Hydroelectric Generating Station in 1985, purchases from Basin Electric in 1986, and the construction of the Alberta-Saskatchewan tie which will be completed this year, we will need Shand in 1992 or we will not be able to meet the electrical demand of this province.

The following alternatives were considered and submitted in our EIS:

- a new lignite-fired station at Shand;
- a new lignite-fired station at Poplar River
- a 300-megawatt purchase from Manitoba,

and how often I have heard about the Manitoba purchase. Let me set the record straight.

In determining which generation option was the most advantageous to Saskatchewan, the long-term generation costs were estimated for each. A comparison of these costs showed that the two thermal options are essentially equal, while the purchase option from Manitoba increased Saskatchewan Power's accumulative costs considerably. A more detailed evaluation of the Manitoba purchase showed that there were significant advantages to building in the province as opposed to importing power.

For the first year of production from Shand, that's 1993, the cost of power is estimated at 5.6 cents a kilowatt hour. That's the total cost of production from the plant, including the cost of fuel, the cost of the depreciation, the interest, and all of the staff.

The cost of purchasing power from Manitoba, the best deal that I could get was a 12-year contract, and the first year cost was 7.8 cents a kilowatt hour. That's the best deal I could get. It was also concluded that the Manitoba purchase option will make the financial situation of Saskatchewan Power worse in the long run, or alternatively, electrical rates would have to increase by 11 percent more than if the Shand option were chosen. The Manitoba purchase option did not provide operating flexibility, and had $160 million in higher accumulative costs, that is the period of 1993 to the year 2005.

The Manitoba purchase option would also take away from the province the economic activity associated with the major projects. For instance, there are about $80 million paid into the provincial treasury through royalties and taxes that would not go into the treasury. There is a reduction in jobs of something of 5,200 to 7,400 man-years of work. This amounts to, in a conservative estimate, 450 million to $950 million into the provincial economy. This would all have taken place in Manitoba.

In addition, the Manitoba purchase option would prevent the creation of 260 to 360 permanent jobs in Saskatchewan. That's the people that work for Sask Power and the people that work for the mines, plus the spinoffs in the various communities.

While the evaluated costs of Shand and Poplar River were nearly equal, there were some major differences.

MR. MILLARD: Mr. Lawrence, if I could interrupt for just a moment, I think we are straying from the IEE.

BOB LAWRENCE: Okay. I'm sorry. I think I can get back to it.

The major differences came in the environmental aspects of the project, and the environmental aspects of Shand are significant, because Shand was not considered as a separate entity to the Rafferty project.

Shand is the first station to be built in Canada which will meet the federal emission guidelines on acid rain. No one else has committed to this. Shand is the first power station in Canada to offer a zero discharge. In other words no water from the Shand Power Station, of any kind, will return into the Souris River. No other utility has built a station like this, and we were cited and commended by Pat Findlay of Environment Canada on this very aspect of the Shand station. It's a unique concept, and one which you should all be aware of.

In summary, and in conclusion, I would like to say that this project is extremely important to Saskatchewan Power, and it's extremely important to the people of the province, it is an environmentally-responsible project, it has had absolutely tons of study, and we have looked at every aspect, we have been cited by the environmental people for our responsibility, and I don't want you to forget it is the first station that will provide a solution to acid rain in Canada. Thank you very much.

MR. MILLARD: Thank you. We will take a brief recess, five or so minutes.

(Meeting adjourned at 9:05 p.m.)

(Meeting reconvened at 9:15 p.m.)

MR. MILLARD: Can we come to order ladies and gentlemen, please? Is Mr. Darin Fox present?

DARIN FOX: To begin with, I would like to answer a question that Mr. Orchard asked. He was asking where is the water going to come from to fill up the reservoir, and I think it's probably the same place the floods come from.

My name is Darin Fox, and I would like to thank you for the opportunity to speak on this issue. I support this project because I feel it's good for the area, and most of all the people in the area overwhelmingly support it, the only people who I believe should be really speaking on this subject.

However, I do not want to sit by and let certain politically-motivated people of a supposedly environmentally-concerned nature tell others of notions that the wildlife will be hurt by this project in the long-term. It is simply untrue. This comes from a person who is also very environmentally concerned.

I never use aerosols, and if it was up to me I would have the air conditioning in this room turned off, but I have a feeling I would get kicked out pretty quick, I recycle anything that can be recycled, and I have had a thing against hunters ever since the day I was born, and people who wear fur coats make me sick, and I could probably teach a few people a thing or two about our depleting ozone layer, so I don't think anyone here can accuse me of being concerned only about the economics of this project.

I would not support anything that would hurt the environment, nor would the people of the Souris basin. Yet people, the opponents of this project, basically are saying the same thing as these people who are willing to volunteer to have a garbage dump put on their neighborhood. They would not support anything that would hurt their environment. It is basically the same idea.

To begin to dismiss the arguments of my fellow environmentally-concerned persons is that birds are pretty flexible. They go to where the water and food is, and they really don't care where it is. They don't care whether it comes from a dugout, a marsh, or a reservoir. This project is committed to a no net loss policy. Although some animals will lose some habitat, many more will gain. The reservoirs, with fenced-off habitat, will create a large, stable breeding ground, and the creation of the reservoirs will result in a more stable and increased shoreline for the endangered whooping crane and others birds. These long-term benefits will not exist without the project.

Secondly are the fisheries. The building of the Rafferty reservoir will mean, in Environment Canada's eyes, all fish species currently in the area of the reservoir are expected to do well under the new conditions. In Alameda, in addition to walleye, pike and perch conditions may be suitable for rainbow trout as well. I ask of you to try and think of how many fisheries there are in southern Saskatchewan. There are very few. So any development in this area would be definitely a positive development.

Thirdly comes animal life in the area, and let me stress again that this project is committed to a no net loss policy. There is a good deer population, and that's the reality in this region. Dams and reservoirs don't change that, but floods probably do. Trees, grass, and shrub plantations will provide areas for deer to winter in, as well as cover to give birth to their fawns. A no net loss policy will compensate for any habitat lost, and in my opinion, animal life will be better off than before.

The project is needed for water management for this region, and very importantly, the people who are directly affected by it. The people who live in the basin strongly support it. The Americans who agree that Saskatchewan should be retaining its legal right to 50 percent of the Souris River are actually giving us money to build it. I ask of you to allow the people of Souris River to build their dams. Thank you.

MR. MILLARD: Thank you Mr. Fox. Mr. Al Taylor?

MR. TAYLOR: Mr. Chairman, thank you very much for allowing me to appear. Just a quick introduction.

I am Al Taylor. I actually was raised on the Souris River, just to show you that I have some connection with this. My background is I was in public health for about 25 years, and then ten years in the social service side of things, and a concerned environmentalist since about 1968, and I have been retired for the last two years.

I have reached the conclusion, for what it's worth, that environmental health is more important than human health, because I believe it's possible to have sick adults in a healthy environment, but it's impossible to have healthy humans in a sick environment. Now on to to the Rafferty-Alameda project.

I am happy to be here making this presentation, because the fact that the Rafferty-Alameda IEE means my original position on the project has been vindicated, I would say it's been more than vindicated. That it is an endorsement, especially when you take into account the significant impacts and significant deficiencies that have been identified. Just think how many more deficiencies would have been found at the Shand megaproject had the ten other sections of the provincial EIS had been included in some sort of scrutiny.

I am also sad to be here making this presentation, because the Rafferty-Alameda IEE shows the environmental review process in Saskatchewan to be sadly lacking. What other conclusion can be drawn? I am also getting tired after so many years of presenting briefs to commissions such as yours, requesting consideration of alternatives, conservation and sustainable development.

Just as an aside, Mr. Lawrence told me that he would be happy to turn my electricity off first when we go blackout in 1992.

So instead, I guess I'll repeat that statement. I am also getting tired after so many years of presenting briefs requesting consideration of alternatives, of which there are many, conservation, and sustainable development. So instead of writing more and reading more tonight, I am including documents from my files which will clearly outline my position, and indicate why the Rafferty-Alameda dam should not be built at this time.

Hope springs eternal that we will finally get an inquiry that gives the environment priority, and so again I recommend a basin-wide study of the Rafferty-Alameda-Shand that includes the entire Souris River system from source to mouth, and it would be an EARP process, and I further recommend that the inquiry investigate costs and benefits of various conservation scenarios and alternatives that have been suggested or can be recommended. I think it's unfair to do an inquiry without looking at some other ways of doing things.

I would like to end with just two little points, and one is a couple of quotes from Mr. Clark in a speech, and that's Joe Clark, Secretary of State for External Affairs, and two of these quotes are:

> "sustainable development is about how to make hard choices in situations of scarcity. It is not a way of having your environmental cake and still enjoying the same level of economic development",

and another quote, and this is from a meeting that he attended, it was a speech by the Honourable Joe Clark to the Environment and the Economy in , and the second quote is

> "Canada is applying the principles of sustainable development to Canadian, domestic and international policy"

and I would recommend that you seriously consider applying that point of view in your decisions to the Minister, and recommend that that be part and parcel of the EARP review process.

One last thing. I would like to point out that the Department of the Environment in February of '88, (and it was the FEARO office that published The Purpose of PublicHearing Procedures, and there was 12 principlesoutlined in there, ranging from the specific rulesof procedure for public hearings must be knownbeforehand); established that all information pertaining to a proposal subject to public hearing must be known in advance. I am sure you are quite familiar with them. There are 12 principles enunciated I think, yes, 12 principles enunciated, and I just graded the environmental impact, or at least the Rafferty-Shand Board of Inquiry in Saskatchewan, and rated them against federal principles, and found them wanting in two, four, six, seven, eight areas, at least seven and a half areas. I thought, under those circumstances again, it seems to me if the first inquiry didn't follow the federal principles, then it's mandatory, in my opinion, that the federal people do a study that lives up to the principles that they enunciated. Thank you very much.

MR. MILLARD: Thanks, Mr. Taylor. Mr. Gordon Keats?

GORDON KEATS: Thank you, Mr. Chairman.

My throat is not very good tonight, so I will be brief. I come from Melville, the place that was caught short this spring, just about had a disaster because we were depending on runoff water to fill our reservoir. No backup support, we had to find some wells, and we went through some very trying days.

Gordon Keats
Regina, Saskatchewan
Thursday, June 22nd, 1989

The main reason I support this project is because it will be assured good water management resulting in a good water supply for future use in our province. Currently, almost all the water that flows into the Souris basin in the spring runoff flows downriver into the United States. As you are all well aware, Saskatchewan is entitled to keep half of this spring runoff by international law. Common sense would dictate that we should want to keep our fair share of the water here in Saskatchewan.

Somebody said "how will that reservoir get filled up?" In 1975, you can probably look at some of the pictures here, I was in Minot and saw dikes up level with the eavestroughs in the houses, and there was enough water there to fill that reservoir in that one year, and why couldn't we have that water in Saskatchewan instead of damaging those places down there? I am sure that many of you are totally aware of the drought situation that this province has faced in the past years. Born and raised on a farm, I know that when agriculture suffers, the entire economy suffers. Good water management will ensure that irrigation projects will be feasible, helping to stabilize our most valuable industry.

Some of you may remember the dirty '30's, I certainly do, and the people of the Souris valley did. After those years of drought and hardship, the residents of the Souris basin began to look into the possibility of storing water. This project is exactly what those people had in mind. They understood what it was to have an inadequate water supply. Let the wisdom of those from yesterday guide us today, and these people from the Souris valley today, outside of one or two that are, I suppose, against everything, are looking after the environment of the Souris valley. You only have to go down, take a tour down like I did last summer through the coal mines and that south country, and see if they are environmentalists or not, see how they have turned the coal fields back into grain fields, and see that they care about that country that they are looking after. They want to have that water when it's available, not having it run away on them, and that's all I have to say.

Thank you, ladies and gentlemen.

MR. MILLARD: Thank you. Mr. Charles Backman?

JOHN COMRIE: Mr. Chairman, my name is not Mr. Charles Backman, he could not be here this evening. My name is John Comrie, I am General Counsel for IPSCO, a steel manufacturing and processing firm based in Regina, but with facilities in both Canada and the United States.

While our organization does not have a direct interest in this project, being located outside the Souris basin, we are very concerned about the delays in proceeding with the Rafferty-Alameda project. We do feel we have a stake in the outcome of these public meetings, and therefore we wish to go on the record as strongly supporting this project.

In terms of diversifying Saskatchewan's economy, the Rafferty-Alameda-Shand project is of importance to all the residents of the province. For example, IPSCO is the single largest consumer of electrical energy in this province. Those who have questions or concerns about the necessity of increasing our electrical generating capacity do not appreciate the increasing need for expanding energy by industry. It is important that this new energy production and expansion be located within Saskatchewan to ensure that future long-term requirements can be reliably and economically satisfied.

Developments such as the new Co-op heavy oil upgrader in Regina, proposed new fertilizer manufacturing plants, the potash industry, the northern mining and other individual developments, are evidence of Saskatchewan attempts to diversify the economy. The Shand generating station will utilize Saskatchewan coal resources, which in itself is an important industry in southeast Saskatchewan.

Water from the Rafferty reservoir will be transported to the Shand generating station by pipeline. Oilfield mitigation will also involve upgrading and replacements of various pipeline facilities. These involve steel products which we and others produce, creating employment here in Saskatchewan.

As people in the Regina area are well aware, IPSCO has a very significant impact on the local economy. While the actual construction of the Shand generating station and the dam projects creates immediate employment, the establishment of the actual reservoir and the generating station are much more important to Saskatchewan people as a whole in the longer term.

With respect to water conservation and water management, the federal government does not need to be told about the importance of dams and reservoirs on the prairies. The federal Prairie Farm Rehabilitation Administration has been actively involved in conserving water in reservoirs behind large dams and small dams for over 50 years. The drought of the 1930's led to the creation of the PFRA, and the values of these reservoirs cannot be questioned by anyone.

Where would Regina and Moose Jaw be today, for example, without the Gardiner dam and Diefenbaker Lake? There has been considerable talk about the need for a direct pipeline from Regina to Diefenbaker Lake to meet future needs. Without water and storage reservoirs, there would not be much of a future for Regina. We all need water. Southeast Saskatchewan is no different. For years the residents of that part of the province have watched the Souris go from floods in spring to no flows in the parched summer months.

Manitoba built a dam on the Assiniboine River some 20 odd years ago to control floods downstream. Today the Lake of the Prairies is an important recreational and sport fishing reservoir, and I am told Manitoba is considering more dams on the Souris system to hold more water for their own use.

Lake Darling on the Souris just south of the border is another close example. I think it should be pointed out that Saskatchewan has the right to retain its 50 percent share of the Souris water since the IJC interim measures of 1959. Since then, with added flows from the Yellowgrass area, we have permitted most of this water to just drain away.

Over its 30 odd years existence, the growth and development of IPSCO has been a tremendous benefit to the economy of the province. What is perhaps not as often recognized is the benefit received by IPSCO from the growth and diversification of the province as a whole. This is a mutual relationship from which we have both benefitted. For example, the development of farm implement manufacturing in this province, supplied in part by IPSCO steel, has grown as a result of the water management projects of the past.

Water and its sound management is of vital importance to Saskatchewan. With the number of studies already completed on this project, we believe it must be possible to proceed in an environmentally-sound manner. In drawing the necessary balance that must be made between conservation and development, and in assessing the Initial Environmental Evaluation, we urge you not to lose sight of these matters. Thank you very much.

MR. MILLARD: Thank you. Catherine Christie? Is Catherine Christie here present? Jim Ellott?

JIM ELLOTT: Thank you, Mr. Chairman.

Members of the audience, government officials, ladies and gentlemen; thank you for this time to be able to present to you our concerns on the Rafferty-Alameda dam project on this meeting.

When we begin to look at economic issues within this province such as jobs, growth, production, we have to begin to look at what is happening in the world with the global shift towards what has been called sustainable development. As the Bruntland Commission defined it, sustainable development is development that meets the needs of the present without compromising the abilities of the future generations to meet their own needs. Two key phrases in there is meeting the needs of the present, and the second one is compromising the abilities of future generations to meet their own needs.

We also must be looking at alternatives. There are always alternatives to any project that is being put forward. This project falls short of those goals of sustainable development, either dramatically or only slightly, but nevertheless short. Southeastern Saskatchewan, and for that matter southern Saskatchewan, is a semi-arid prairie with aspen bluffs, brush, and scrub in certain areas, and native grasslands in uncultivated areas. Living with drought requires careful use and management of the region's limited water resources. Long-term planning is essential to minimize drought impacts.

We have concerns about this project, and about the impacts of this project on the wetlands of the basin, more specifically the upstream parts of it in the reservoir area. We fear that with the grand plans of this project for irrigation, more wetlands and prairie will be drained and broken unnecessarily. We have very few good wetlands for waterfowl production in southern Saskatchewan. Concurrent with marshes and wetlands, we need good upland areas for nesting cover. This must be more fully investigated to determine the impacts of this project on these areas. We can no longer work in isolation of the surroundings.

One of the major areas of concern of our organization is the destruction or inundation of the riparian ecosystem of the valley by the project. Within the Souris River valley in Saskatchewan, only 55 percent of the land has native vegetation covering more than 50 percent of the section. Of that, only 32 percent of it has any protection at all. The PFRA pastures within that valley make up 84 percent of the pasture, and that protection, limited protection given by the pasture is only preserving the land as pasture and keeping it away from being cultivated.

The importance of the Souris River valley has also been recognized by legislated designation of portions of the valley as critical wildlife habitat under the Critical Wildlife Habitat Protection Act. These land are considered important to sustain regional wildlife populations.

One concern in this respect is the replacement of critical wildlife habitat land with rebuilt or created lands on the uplands area of the basin, as has been suggested by the mitigation of the initial environmental impact study done by the Souris Basin Development Authority. Ecosystems that have been in existence for thousands of years with limited modification cannot be easily created to replace land inundated by the reservoir. What of the critical habitat for other non-game species living in this valley? How will you adequately create new habitat for them to maintain their existence, some being very delicately balanced with other species.

The Saskatchewan Basin Development Authority EIS also identified 12 amphibians and reptiles in southeastern Saskatchewan. Most of these are given the nominal designation of never numerous or unknown. Although some of these may be locally abundant, no systematic surveys were conducted for either reptiles or amphibians.

In addition to that, a total of 36 provincially-rare plants have been recorded in the Souris basin, Souris River valley, 14 of which of these are considered rare for Canada. Of the Souris valley plant rarities, 12 are known only from in that valley, that's the only place they are in the province, contrary to what Mr. Devine said earlier on this evening. Four others are only found here and in the neighboring Antler River valley. The information that I am quoting in the parts with the plants was only released in April this year, and so it was not available to anyone who was investigating the impacts of the initial Board of Inquiry.

The Baird's sparrow has recently been identified or added to the COSEWIC list as a threatened species. It is a common breeder inhabiting valleys, bottom grasslands along the Souris River, namely northwest of MacDonald Lake. The species reaches its greatest density in native and tame grassland similar to the habitat located in the upper portion of the proposed Rafferty reservoir northwest of Dr. Mainprize Park. Suitable habitat also includes valley bottom haylands and croplands and what would be the main body of the reservoir. Before we begin to try to help and to protect the Baird's sparrow, it would be of benefit to keep the habitat we now have for it, and not eliminate the species from even having a chance to increase its populations.

Active nests of ferruginous hawks have also been found in the wetland area east and west of Dr. Mainprize Park, and north and east of MacDonald Lake. More work has to be done in the identification of the impacts of all endangered species in that valley. There have also been numerous other species in that valley that make up the diverse web of life that is the Souris River basin. Those species mentioned that are documented in the literature cited, are the ones which have been identified as needingprotection from extinction or from inundation by project. There has been no mention, in previous reports, on the impacts on species outside of Saskatchewan, namely North Dakota and Manitoba. It is within your jurisdiction to review the impacts of the project whenever those projects cross provincial and international boundaries, and to have those studies already identified in the EIS completed before a full review of the full impacts of this project and before a final federal decision is to be made. Not everything is known about the Souris River basin, as someone proposed this evening.

The last major concern we have with this project is the unrealistic or optimistic approach to the filling of the reservoirs and the use of the contained water. If one looks at the distribution of the annual flows down the Souris River from 1912 to 1981 they are as follows: From zero to 10,000 cubic decameters, 6 years it's been that low; from 10,000 to 50,000, 17 years; 50 to 100,000, 20 years; 100 to 200,000, which includes the average flow of the river, only 13 years; 200 to 300,000, 7 years; 300 to 400,000, 4 years; and greater than 400,000 cubic decameters has only happened 3 years in the past 85. This distribution illustrates to us that there will be major fluctuations in the amount of water available to the reservoirs, as well as the amount of water flowing downstream from both reservoirs. The impacts on the downstream vegetation and animals is variable, but it is also negative. These fluctuations can only be modeled and the models used by the SBDA in their EIS have made some very large assumptions. Their models show that the reservoir will take anywhere between 7 and 43 years to fill up, depending on which year it was built.

The computer model simulations also assume that Rafferty and Alameda would start the simulation period nearly full, and the amount of water use assumed for the scenario would commence in the first year, and continue at the same level until the end of the period. Coming from those statistics of the water flows in the river, this is unrealistic to think that the reservoir will fill quickly.

The consequences of low flows, fluctuating flows, and a very flat valley reservoir will be massive mud flats, perhaps tens of kilometers long, between the major floods. There will be massive amounts of money spent on dams that will only be used perhaps three or five times in the next century.

The consequences downstream from this unused dam would be devastating changes and modifications in the regular flow of the river. Equally unrealistic is how investors will be asked to justify sinking somewhere between 2,200 and $7,100 per hectare into irrigation equipment when they can't get a firm commitment of adequate water supply, or even expect an adequate water supply for the length of time needed to amortize the investments.

Lastly, we should work with what we have rather than trying to create what we can't. Our only recommendation is that the Minister of the Environment, Mr. Bouchard, be told that the environmental effects or public concerns, and in this case both, are significant, and that a public review by a panel is therefore warranted.

Thank you for the time in allowing us to make this presentation and bringing our concerns to you.

Glen Miller
Regina, Saskatchewan
Thursday, June 22nd, 1989

MR. MILLARD: Thank you, Mr. Ellott. Glen Miller?

GLEN MILLER: Thank you. Mr. Millard, Mr. Burns, ladies and gentlemen;

It's perhaps fitting that I follow Mr. Ellott. I too have a concern about a species, that's the two-legged kind.

Mr. Chairman, my name is Glen Miller, and I am from the City of Melville. I am a Director of the Melville Chamber of Commerce, and on behalf of the Melville Chamber of Commerce I thank you for the opportunity to present our concerns on the matter before you.

Though not directly associated with the Rafferty-Alameda project, we share a common problem with communities within the project area. All of us are faced with declining water resources, coupled with declining populations, reduced municipal tax bases, and corresponding reductions in goods and services. We become frustrated by the fact that the equity in our small business is not turning into a readily-salable asset. We are faced with the grim reality that there is indeed a liability in the decision to invest in small-town Saskatchewan. So a stimulative investment bearing the potential of the Rafferty-Alameda project could not come at a better time.

In our view, development and environmental protections need not be incompatible, nor in the case of the Rafferty-Alameda project, are they. It seems to us that more water resource management projects are needed, and is a desirable objective. It is our opinion that the scope and commitment of the environmental and wildlife mitigation objectives are sufficient.

Strategic application of water resource management to achieve economic diversification in the area cannot be overlooked. The economic spinoff resulting from the projects at Rafferty and Shand has already reached as far as Melville, and our commercial sector has responded to certain contract requirements, and there is potential for more economic linkage in the future.

I make this presentation to you today bearing in mind my involvement in the East Central Development Corporation, of which I am a Director and Chairman of the Board. The East Central Development Corporation is funded through the Department of Employment and Immigration Canada, and its prime focus is to create meaningful full-time employment in the 63 small communities which it represents, communities as far south as Kipling, and as far north as Melville. It does so by providing loans and technical expertise to small businesses in the region. I need not belabour the point of how important new jobs created by the Rafferty-Alameda project will be to the communities in my region.

Further, the recreation and tourism strategy of Rafferty-Alameda compliments work done in other areas of the province. The project will encourage length of stay in the province by tourists, thus stimulating the hospitality industry and increasing our opportunity to capture new tourism and increasing our opportunity to expand our resource base. Melville and area residents are also within travel distance to water-based recreation developments at both reservoirs.

On the whole, we endorse the Rafferty-Alameda project as a timely one, vital to the area it serves, and of key importance in achieving diversification objectives for southern Saskatchewan. Having briefly stated the position taken by the Melville Chamber of Commerce, I thank you for this opportunity, and you will receive a copy of our brief before July the 10th. Thank you.

MR. MILLARD: Thank you, sir. Dan Kwocha?

DAN KWOCHA: Ladies and gentlemen, panel and guests, my name is Daniel Kwocha, it was close.

Dan Kwocha
Regina, Saskatchewan
Thursday, June 22nd, 1989

MR. MILLARD: Not really.

DAN KWOCHA: And yeah, I too would like to speak about an aspect of the project that I think has been largely forgotten among the politics and the rhetoric.

I grew up in the area and I know the valley well. I spent a lot of good times, when I was a youngster, at Mainprize Park, some of the best times of my life. I am always going to remember them. Not long ago I visited the park, I walked around, there is a nine-hole golf course there, I played nine holes, and I walked around the rest of the park. There used to be a pool there we used to swim at, it was a great facility at the time, and now concrete was cracked, and the weeds had all grown through, and the buildings were deteriorated, and the old poplars were dying. It was great when I was a kid, but it doesn't look so great now, and I couldn't help but feel, as a young person, that that was my attitude too, and the people that I grew up with. That's what we felt. We felt that the whole area was dying, that there was nothing there, there was no future for us. You know, we hear the old men in the coffee shops saying "I never remember it being this bad, this dry, worse than the '30's some say" and, you know, we hear this and we wonder.

We watched businesses pack up and leave, we watched our friends moved away, and the friends that did stay looking for a chance to get out for something else because there is nothing, there is no reason to stay there. Nothing is happening, there is no growth, so that's how we felt. We felt like the whole place was futureless, dying, it was stagnant, and that's, in general, how young people in the area feel.

Then came the long-studied, long-awaited dam, and to young people especially, and I know it means a lot to other people too, this meant hope, development, and maybe a future for us in that area. We hear our grandparents speak all the time proudly of the great progress they made, of the many feats that they accomplished, and the satisfaction that they got from achieving those things, from building things, and we only want to feel the same kind of pride.

Not one of us are willing to sacrifice the environment to achieve our desire. We don't even want to manage wildlife, we want to co-operate with it, and if animals could speak, and this is one of the times when I wish that they could, I think they would say that -- well first they would say "go back where you come from, we were a lot happier 200 years ago", but second they would say "if we can't have that then let's work together, let's be partners, let's work out a deal", and I am satisfied that the environmental aspects of this project have been properly dealt with, and that the wildlife is going to be as well off now as it ever was, and probably better. I think that's been adequately addressed.

I realize there are many people from other parts of the province who won't be receiving direct benefits, other than power, from the project, and they are not sure why they should support it. They won't receive the jobs and tourism and recreation and irrigation and diversification that people in the Souris basin will receive, but we are not enemies from people from other parts of the province, or adversaries. We are not divided along regional lines. When dams were built at Nipawin, Gardiner Lake, Diefenbaker Lake, I was concerned, but ultimately I let the people in the areas guide their own future. I am one of the people in this area and that's all, we only ask the same, we only want to decide for ourselves what's good for our area and what's not.

A decade of drought has forced us to realize the value of water, and we believe that we have to conserve as much as we can, and we need the economic benefits, and we want those economic benefits. We believe in the project, we believe in the government, and we believe in ourselves, and we want this project to go ahead. It's more than a dam, it's a declaration of a future for young people, and to stop it just amounts to a sentence. Thank you.

Tom Quigley
Regina, Saskatchewan
Thursday, June 22nd, 1989

MR. MILLARD: Tom Quigley?

TOM QUIGLEY: Mr. Millard, Mr. Burns, distinguished guests, ladies and gentlemen;

My name is Tom Quigley. I saw my name number 23 on the paper, I thought I would be asleep by now, but I find it very invigorating.

As a private land owner in the upper reaches of the Souris River, I farm some of the most highly-productive land in Saskatchewan. Scott Municipality assessment is 9.3 million, making it one of the most highly-assessed municipalities in the province. A levy for our C & D, the conservation and development area, is charged on 217,903 acres, so you can see a large area of our municipality has significant water problems.

Our main concern is spring flooding, causing crops to be seeded late and endangering the quality of our grain due to frost.

Before Saskatchewan became a province in 1905, drainage projects in the Yellowgrass marsh area were started in 1904 by the Northwest Territorial Government, so we have a long history of drainage problems in the area, starting back with my grandfathers first homesteaded at the turn of the century.

The upper Souris valley is essentially flat, and the slow rate of flow can cause severe flooding in years of high runoff. Over the years, much work has been done on the land to improve it and make it more productive. I would estimate that 80 to 90 percent of the basin in this area has already been drained. However, we do have severe problems of more water coming from the east, namely from the RM's of Wellington and Fillmore.

The area represented is approximately 190 square miles. If this water had to remain in this area, flooding of farmsteads lying between Weyburn and Yellowgrass marsh would occur, flooding in the Hamlet of Lewvan would occur, residual flooding in the marshes, after the spring runoff and during summer storms, would occur. Flooding of undrained areas would increased, and flood damage to public structures, that is bridges, culverts, roads both on the main channels and on the tributaries, would occur.

Mr. Chairman, this is highly-productive land, and we believe every effort should be made to keep it in production. We need a place for our water to go that will not cause or increase the damage of flooding. I believe the Rafferty dam will provide an ideal water management control. It will store the water from our area and will stop the damaging effects of flooding on major cities along the Souris.

I might add, when you are on your way to Estevan for the hearing on Saturday, you will see a lot of flood control works around the City of Weyburn, and this is water management. Within the last couple of years, flood control works have been constructed in the Weyburn area, thus reducing the damage that our water has caused them in the past. Approximately 90 percent of our water is, at present, uncontrollable. We retain only 10 percent and water, in years to come, will be a very precious and essential commodity. With this dam in place, there will be a possibility of irrigation in the lower Souris; it will provide recreational facilities which would, in turn, bring increased tourism opportunities; industrial uses will be enhanced, namely the Shand Power Station; a large body of water will create significant new staging areas for the waterfowl habitat.

The Souris Basin Authority has made plans to acquire 50 quarters of marginal cultivated land to go back into pasture. They have also purchased 31 quarters to be set aside for wildlife for Rafferty, in addition to 30 quarters of wildlife near Alameda. Doctor Mainprize Park will be relocated and made a provincial park instead of just a regional park, bringing much-needed recreation to the southeast corner of our province. The park board members and the Mainprize family, I understand, believe this to be a great accomplishment for recreation and relaxation in this area.

I believe that this is one of the most worthwhile projects that has ever been undertaken by the Province of Saskatchewan. The economic benefits of this project will be substantial long-term. There will be many jobs created, and it will be a distinct benefit to our province. It will put an end to the constant concern of water from our area causing damage to downstream, and will provide a quality water control project that will be of benefit to all.

Our farm is now a fourth-generation farm. I believe improvements must continue to be made, we must progress, so that future generations can reap the benefits that our land is capable of providing. I wholeheartedly support the Rafferty dam.

I have a copy of this for you, Mr. Chairman, and I have a good friend that lives on the Souris River just south of Lewvan, Mr. Ian Budding, and he has asked me to give you a brief that he has written out, so I will be handing that to you too.

Thank you.

MR. MILLARD: Thank you. Merv Hey?

MERV HEY: Mr. Burns, Mr. Millard, Ladies and Gentlemen;

My name is Merv Hey, I am the President of the Prairie Chapter, Canadian Parks and Wilderness Society. We have members in both Saskatchewan and Manitoba that we represent to the national organization.

We welcome the opportunity to address an environmental issue of extreme importance. The Rafferty-Alameda project may very well be a precedent-setting issue shaping attitudes and determining the future conduct of environmental impact studies and reviews in Canada as a whole whenever large-scale potentially disruptive developments are proposed.

It has been stated by some project advocates that only those directly affected by the proposed development are qualified to express opinion or concern. In fact, we are all affected in differing ways and to different degrees. We can certainly accept valid desires for economic well-being, for flood protection, for more recreation and so on, so we reject the wildlife before people types of criticisms. But we must also ask what environmental and other costs should be borne by society at large for the economic gains of select groups, and where the balance lies. How much population and industrial growth can we expect to squeeze out of finite resources?

The Initial Environmental Evaluation was, apparently not intended to consider the initial monetary cost benefits of Rafferty-Alameda, but the environmental costs are, in fact, under review here, and are just as real. The loss of species or landscapes or general environmental integrity is a cost which we will ultimately all bear and will come to regret.

Also under review is the process by which decisions are made, as well as the importance which we place on the environment as a concept and as a lifestyle. As an example, do we risk losing species because our lax planning controls allow people to build in a flood plain?

We must express some concern over the speed of the federal review, and consequently the timing of these meetings. We understand that, in certain cases, some of the reviewers had less than 24 hours to comment on aspects of the project. The total elapsed time of federal evaluation was less than two months. Following release of the federal draft report and summary, less than three weeks were available to the date of the first public meeting. There was a need to review many of the earlier documents in order to address this gathering. Although we grant that some additional time is available to submit written briefs, it's difficult for volunteer organizations or private individuals to compete with the agendas of those who are paid full time for their involvement.

A major reason given for the timing was that the development proponents were facing high costs while the project was halted. We find this latter reasoning unacceptable. Having first decried the potential waste of monies spent to date should the project be cancelled, they are then bold enough to request the right to continue to spend while this review takes place. They obviously consider that there is no risk involved in this. In other words, they feel that the federal review and these proceedings are nothing more than inconvenient interruptions to a schedule that they are confident will be reinstated forthwith anyway.

The question of availability of water may still not have been adequately addressed. It's not clear whether the modeling scenarios, which assume the reservoirs to be full at the beginning of the time series take all water consumptions into account, or merely irrigation and international apportionment. In fact, why are reservoirs assumed to be full immediately in most of the models? Is there a realistic modeling method for all cases? The IEE points out that the Basin Authority's EIS excluded the current decade in its modeling, that significant deficiencies exist in the database, that current operational models and simulations are not comparable to earlier ones, and that models should be refined.

Given that trans-boundary water issues are within the realm of federal responsibility, we would have preferred to see a clear assessment of the outright hydrologic viability of this project, since valid questions are still being asked regarding water supply for all of the purposes touted by the Basin Authority. Indications are that ground water supplements may be required to a great extent. Furthermore, the hydrologic impact assessments done by the U.S. Army Corps of Engineers have been previously deemed deficient and based on improper baseline assumptions.

"Water conservation and management" is stated as a major reason for the project. However, there seems to be a large incongruity in this. By creating unrealistic expectations among basin residents that the project can be all things to all people, demand for water will be such that conservation of water may be difficult. The stated primary use of reservoir water is for power plant cooling, with other uses possible after this cooling need has been met. It remains to be seen whether future reservoir operating plans will have to take into account continuing increasing demands for more irrigation, more industrial municipal consumption, or more recreation, and whether or not conservation will, in fact, exist.

Having just expressed concern over the short timing of the federal review, we must nevertheless take heart with many of the conclusions of its draft. It is confirmed that a large number of significant impacts would result, that some serious impacts are not mitigatable, and that large information deficiencies exists which preclude the assessment of impacts. This translates into the verdict that both the original EIS and follow-up data were insufficient to serve as the basis for project approval in the first place.

Conclusions regarding impacts on waterfowl, rare and endangered species, and water quality are alarming in some instances. Estimates of potential waterfowl losses are very disturbing, and there appears to be a major contradiction of the basin authority's claim that the reservoir can provide extensive and high-quality waterfowl habitat. The North American Waterfowl Management Plan, as stated before, is indicated as being seriously impacted.

Information deficiencies that are pointed out for rare and threatened fauna are significant, and are not likely to be satisfied with a quick field check. Statements in the IEE that information gaps must be filled, that comprehensive mitigation plans must be developed before the project proceeds, and that there will be serious, and in some cases unmitigable.

We are pleased that concern has been expressed over adverse effects to rare plant species, a concern shared by experts in this area. There is a sentence on page 10-32 of the draft report, and I quote:

> "That a rare plant which is rare in Canada may possess a main range in the United States in which it is in no present danger of extinction has nothing to do with the issue or the responsibility to protect a diverse environment in Canada."

This statement shows a level of sensitivity which we hoped would have been also reflected throughout the original EIS of 1987. As the IEE indicates, some nationally-significant species would be adversely affected not only by flooding out or by reduced flood peaks downstream, but by project-initiated activities such as tillage for irrigation, etcetera. Species could be extricated from Canada entirely, a scenario which should not be acceptable to anyone.

As the IEE points out, there was little coverage of these plants or impacts by the Basin Authority. As well, there were discrepancies in the number of species which are classified as rare on threatened. The federal review lists more than does the Basin Authority, which in turn does not agree with data included in the Board of Inquiry report. There are differences in the estimated number of raptors and nest sites for the same year in the Souris basin, and while the Basin Authority expressed some awareness of the intrinsic aesthetic value of wildlife, its quote "no net loss policy" unquote for habitat seems to be relegated to deer, grouse, and waterfowl. This is far from the complete picture. Moreover, the proponent has admitted that it would be, quote, "impossible to duplicate the diversity and distribution of existing wildlife habitats" unquote.

The IEE emphasizes the inadequacy of conclusions drawn by the earlier EIS and Board of Inquiry report. There are severe conflicts of information and opinion, and questions of credibility which may only be rectified by a full scale and impartial new study.

Time constraints preclude commentary on the previous approval processes and tactics used, or on the much-publicized issue of federal lands, but we have noted these in our written submission to come.

In the final analysis, there are simply too many unanswered questions, too many deficiencies of information, and too many serious or unmitigable impacts pointed out in the IEE, and by others here tonight, to deny that further study and review is required. We must encourage to the fullest a search for alternatives or significant modifications to the present development, certainly, taking into account the needs and aspirations of basin residents, but addressing fully the long list of problems outlined in the review.

We may not have had the animosity or hard feelings today, or the job layoffs, if the issue had been handled properly and was above board from the beginning. We feel that the project cannot be supported in its present configuration, and this federal review is a good first step on the road back to accountability and environmental stewardship. Thank you.

MR. MILLARD: Thank you. Keith Harde?

KEITH HARDE: This is something like, Mr. Chairman, this is like a marathon that I entered into on Monday where three other chaps and myself were in a golf marathon, and it was just about this time of night when we got through. It's been a long-awaited day, and I know that everybody would like to arrive home very soon, so I'll not hold you long.

Keith Harde
Regina, Saskatchewan
Thursday, June 22nd, 1989

I must mention to you in my opening remarks that I have loved the outdoors and been a member of the Saskatchewan Wildlife Federation, served as their provincial president, and also a director of the Canadian Wildlife Federation for five years. I might also mention to you in my opening remarks that back in the '70's, I was involved in the land-use policy committees of this province, and we held 31 meetings throughout the province, with about somewhere around a thousand people in attendance throughout the province, so we could go on and on, I guess, in some of these studies, and we will never get anywhere. I think we have got to get on and get doing something.

I also served in the '70's, and that was under the former government, on the Souris Basin Study, and so, I have been involved in this study I guess for a long long time, back into the '70's. We held meetings, and I attended those, in Carlyle, and Oxbow, and all through the south, and including Minot, North Dakota, so this thing we have studied, and studied it to death I believe, and I think we should definitely get on with the project.

I have worked with Souris Basin since the project was first announced, and I fully endorse the project. I have participated in the development of the mitigation of the environmental impact. I endorse this project because I believe that insofar as the wildlife is concerned, these reservoirs projects and the planned mitigation are not only acceptable, but are beneficial to wildlife. I also believe that there will be no net loss to wildlife habitat as a result of these projects. I
believe that the public has been misled by the actions of the Saskatchewan Wildlife Federation, and also the Canadian Wildlife Federation.

How can some small group of people stand in the way of progress and waste, I say waste, of tax dollars? Water for people we must have. Why should we give our 50 percent of water to North Dakota? We not only want the water, but we desperately need the water. We need the water for people, we need the water for agriculture and we need the water for wildlife, whether it be deer, waterfowl, or whatever.

I must congratulate our government for the mitigation that is being put into place in this project. It was brought up by, just about two speakers ago, about the 31 quarter sections in the Rafferty itself. I belong to an organization in Estevan, I don't have to tell you their names, who are very much in willingness to go ahead to help to develop these projects in the upper regions so we do have better habitat, and to help protect it so we have no net loss in wildlife. I am sure that this can be brought about.

I have lived in Estevan for over 30 years and have yet to see people from northern Saskatchewan come to fish in the Souris basin. Why? Because they know better. I was going to put the word stupid in there, but I didn't, I changed that. You know, they just don't come, and we don't get people coming to Estevan to fish in the Souris River. There are a few locals, and a few North Dakotans that fish in Boundary dam. I might add that at Boundary dam, since it's been put in place, there are lots of wildlife throughout that area, pheasants and everything, it's a great place for wildlife.

We in southern Saskatchewan have a need for water recreation, sports fishing, and the economical base that would be welcomed by all. Job creation and the needed boost to our economy will occur for years to come if the project was in place. Channelization by holding water in the oxbows would enhance wood ducks and other wildlife mitigation in the downstream from the dam. We, in the Estevan area, are fully in endorsement of the work that would take place, and we will be there to make sure and monitor what they do, I would hope.

All people of Saskatchewan should be happy with the Shand generating station. We, I hope, are not expected to return to the dark age. You can talk to Saskatchewan Power regarding load growth, and we must build for the future. There is no question about it. I don't think that the people of this province, and maybe some in this room, realize just how much generation has been taken from the Boundary dam reservoir, and they don't realize how low it was in the last few years, and we desperately need water and there is no question about it.

If waterfowl production is a problem in southern Saskatchewan as was related to in this book, then why don't the Saskatchewan Wildlife Federation, Ducks Unlimited, and the North American Waterfowl Management Plan get into operation and do something about a proper marsh at Fillmore, Creelman, and put some stopgaps so they don't flood the farm and look after that area. It would be a great place for waterfowl mitigation in that area. If the Saskatchewan Wildlife Federation would work for fish and wildlife and get away from politics, well, it would be the winner.

Canadians have talked about Rafferty dam for so long that it makes one sick that this construction was not completed years ago. We all know that we must agree that water storage throughout Saskatchewan, Canada, is a must for wildlife, rural and urban needs. Let us start today to say "yes", build the Rafferty-Alameda dam. Thank you.

MR. MILLARD: Thank you. Linda Siemens?

LINDA SIEMENS: Good evening. Mr. Burns, Mr. Millard, ladies and gentlemen; I am Linda Siemens, a citizen of Regina and a citizen that believes in the use and the management of our environment. For years I have supported the efforts of conservation groups, and I do enjoy the benefits of our environment, and I do want those benefits improved.

Much has been said about the need to preserve habitat. I want to put this into perspective. There have been years where floods have caused tremendous destruction to the wildlife. By the same token, these dry years are also causing a tremendous destruction. The densities of the breeding ducks varies with the floods and the droughts, as does the density of the migratory flocks.

The wildlife mitigation procedures to which the Authority has committed itself at public meetings in the area may well be the most responsible ever undertaken. We have never had the resources to make the improvements that are proposed attendant to this project. The co-operate efforts of the Authority and the various interest groups will promote the growth and stability of wildlife resources. The inability to use and store the water allows us to experience a loss of habitat, degradation of the environment, and an inability to develop productively. Water control and water management serves the long-term interests of Saskatchewan. It serves everyone's interest.

This project protects properties from flood damages, it maintains the habitat, it increases the opportunity for production in agriculture, it promotes the opportunity for tourism. These are very tangible benefits. Less tangible benefits are in the areas of recreation and the visual pleasures.

In my view, unless we develop this project, we will continue to experience a decline in the wildlife habitat and in the agricultural economy. Water management means catching and storing the runoff. It promotes the maintenance of ground water to sustain vegetation, crops, and wildlife. Maintaining the wetlands prevent erosion and the encroachment of salts into the soil.

Water management means having reliable wildlife industry. This industry promotes jobs indirectly and with ancillary services. We have to look for balance and development, and I believe that in this project we have a wholly-acceptable mitigation package to offset the environmental disruption that may occur. It seems to me that if we don't control and manage the water in this southeast portion of Saskatchewan, we and they will have a dismal future. Thank you.

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(Meeting commenced at 6:30 p.m., Friday, June 23rd, 1989)

(Opening remarks by Mr. Millard, Mr. Burns, and Mr. Hood not transcribed)

MR. MILLARD: Thanks. If we could now turn to the individual submissions, and before starting let me just again remind you of the ten-minute provision. Tony Schmidt?

TONY SCHMIDT: Good evening. My name is Tony Schmidt, and I represent the Midale Recreation Board.

In our region of Saskatchewan, namely Midale and area, our recreation has always been similar to our main industry, and that industry being dry land farming and our recreation has been that as well, dry land recreation. With mainly baseball, curling, hockey and hunting being the mainstays, on occasion we have had some fishing. Fishing, that is, if the Souris River water level remains high enough to keep the fish alive. Recreation that involved water sports of any kind is just not available in our area. Anyone wishing to participate in this type of recreation has to drive a substantial distance to the closest lake or water reservoir.

It was, therefore, not surprising that when the Rafferty-Alameda proposal was first made, that our citizens took immediate interest. As a matter of fact, the people have become totally enthused about the project. For the first time ever, the prospect of having a reservoir of water large enough to engage in most water sports was at hand. Safe boating, water skiing, and finally the prospect of good fishing was a real possibility, and all within the short distance of most residents.

As well, another desirable possibility showed itself in that with a large reservoir of water close by, the development of cottage sites could also be a real option. Highway number 39, with its high level of tourist traffic in the summertime, runs close to this proposed reservoir. The possibility of some of this tourist traffic being encouraged to stop and enjoy the new campground and golf facilities which have been planned near the area of this reservoir are very real. The spending of tourist dollars would certainly enhance the local economy. Also, the possibility of new small businesses catering to the tourist trade or industry would be a very valuable spinoff to this proposed project. We believe that the Rafferty-Alameda project, upon completion, would provide the following benefits to our area:

1) an excellent substantial body of water on which to safely enjoy water sport recreation;
2) provide a large enough body of water to sustain and increase the game and fish population, which has not always been possible in the past due to unpredictable water levels of the Souris River;
3) provide a valuable staging area and stopover point for migrating waterfowl each year;
4) it will improve our citizen's quality of life environmentally, socially, and with enhanced opportunity in diversification.

On behalf of the Midale and Area Recreation Board, I thank you for your time, and urge you to give due consideration to my comments and allow the Rafferty-Alameda project to continue.

Thank you.

MR. MILLARD: Thank you. Darryl Cox?

DARRYL COX: Good evening, ladies and gentlemen. On behalf of the Midale and District Lions Club, I would like to make the presentation concerning the Rafferty-Alameda project.

Darryl Cox
Oxbow, Saskatchewan
Friday, June 23rd, 1989

We favour the construction of the Rafferty-Alameda dam as it has been supported as a concept since the days back when the PFRA was starting it. For 50 years now we have heard it can be built and it can't be built and we are hoping now, for the first time, maybe it will be built. We live right on the dam or on the river, and we have seen the water go from a high level where we have had floods, and then we have had the low levels where we have had no water at all. This project can stand on its own. It contains some of the best work of its kind, and a lot of community input, and some of the most forwardly-thinking mitigation proposals of which all of us had a part.

Regional development and economic diversification are key priorities for our area, and Rafferty-Alameda is consistent with those. Much has been said about the need to preserve habitat. We want to put this in perspective. There have been years when floods have caused tremendous destruction to wildlife habitat. By the same token, these dry years were very destructive without the dam. We are generally agreed that there are no absolute predictions about the degree of probable water quality improvement, but we think that there is general confidence that this will improve, especially in odour and appearance. We can tell you that this represents a change for the better. If any of you had the opportunity to drink our water this winter, or even this spring, between the sulfur taste for the winter and the dead fish taste this spring, I think you would see that it can do nothing but help. Also, about two weeks ago I was down on the Red River and I don't think, by looking at that water, that you could hurt its quality either, so I think the dam would certainly help it in one way or another. Public hearings in this area have made it very clear that quality will be monitored. That is sufficient reassurance for me and my neighbours. We believe that the technology is available, and that we will have every confidence in the reservoirs being used to our advantage.

We have proven that even though we are a relatively small business community, we can and will respond to a big project. We have the ability to serve this project and its work force and we want, I think rightly, to take maximum advantage of the prosperity that these investments can bring to our area.

People living here need the water. Ducks will move to higher ground, and the little ones will not die due to lack of water. In our area I have seen many times we have had small sloughs, ducks nests are laid, by the time the eggs hatch the slough is gone and the ducks don't make it to water. I think a lot more will be saved in this way than will ever die by the ducks being flooded while they are sitting on the nest, and I don't think you can flood a duck once it's born.

If the reservoir goes through, there will be more than enough water to provide the habitat for game fishing. In the past, I don't think we have any fish in our area because they all winter killed this year.

So I think that we would encourage you to facilitate the construction of the Rafferty-Alameda project, and we would be in favour of its proposal, and we thank you for the opportunity to be able to bring this to you.

MR. MILLARD: Thank you. Frank Jennings?

FRANK JENNINGS: Moderator Millard, Mr. Burns, members of Environment Canada, ladies and gentlemen; my name is Frank Jennings, Deputy Mayor, at least for this evening, of Weyburn, and I am presenting our brief on behalf of Mayor Ron Barber.

The City of Weyburn recognizes the importance of water resource to enhance economic development for a region, and this brief will outline perceived opportunities that will result from the completion of the Rafferty-Alameda dam. Let me be begin by pointing out the psychological impact of a large body of water on an individual. Although we cannot bring forward hard statistics to support our claim, we feel that people associate quality of life as being near a large lake where they can have a cottage, go boating, fishing, or camping. As a result, we feel that this large body of water will be an important marketing tool in attracting industry to our City. Whenever you look at an industrial promotion, be it brochures or videos, you will see emphasis placed on quality of life for families. This has proven to be one of the most important points when executives make their decisions to move. We will now point out perceived opportunities, beginning with short-term economic activity, to long-term benefits for our community.

Rafferty dam construction. Although the Rafferty dam is being constructed near to the City of Estevan, we feel that a significant portion of direct employment for this project will come to Weyburn.

Agricultural diversification. The southeast region of our province is in constant need for moisture, and as a result, we have not been able to diversify our agricultural production. This 30-mile body of water will provide that opportunity. We realize that irrigation farming is a very long-term object, and to diversify into intensified agricultural production requires attitude changes as well as processing and marketing opportunities. We are advised that a large area of farmland in the Weyburn area is suitable for irrigation, and knowing that the province is committed to further agricultural processing, we feel that we have a good opportunity to pursue food processing plants. We also view Weyburn as the ideal location for irrigation equipment, distribution, and service centers.

Recreation. From our perspective, we view the Rafferty dam lake a very important economic stimulator in terms of recreation and tourism. The relocation the Mainprize Regional Park to a proposed new site, which will be nearer Weyburn, will create employment and reconstruction which will include a golf course, camping facilities, beach area, forestation, and other recreational facilities. This new Mainprize Park will be a provincial park which will also include cottage development. This will be popular for Weyburn, as residents now have to go 70 miles in order to have a cottage on a recreational lake. Although we support cottage development on this reservoir lake, we do so only because of the size of the body of water. This 30-mile reservoir, upon reaching its operational level, will be the third-largest impoundment of water in Saskatchewan after Lake Diefenbaker and Tobin Lake. We do insist the strictest environmental regulations are maintained regarding effluent discharge to secure the highest quality of water possible. This cottage development will create work for our building trades, as well as increased sales for our building materials suppliers.

For such a large body of water, new water recreational industries will develop in our community. Examples of such industries would be increased boat sales and boat repair outlets, as well as specialty equipment such as sailboats, water skis, and fishing equipment.

Tourism. This Rafferty dam lake will be the largest body of water in southern Saskatchewan and the northern midwest United States. There is a great opportunity to increase tourism in our area. Mainprize Park, which will be a provincial park, as we said before, will attract and hold tourists in our area for a longer period of time. This will bring more dollars into our city. The west end of the lake will be the shallow end, and will be developed as marshy wetlands, providing a home for migrating fowl and waterfowl. As this will increase waterfowl population to our area, tourist dollars in terms of hunting will increase for our city.

Water quality. Water quality and supply has been a major problem for southern Saskatchewan. All our small bodies of water are experiencing extreme algae growth, causing bad taste and odour to our drinking water. Although the lake will not be completely free from algae growth, the concentration should be such that it won't create any significant quality problems.

The one concern that the City of Weyburn has is the quality of our sewage discharge. Will the City have to improve the quality with further treatment, and if so, are there funds allotted to make this change, and also funds for the ongoing increased operating costs? There does appear to be conflicting statements on this matter requiring definite clarification.

In conclusion, ladies and gentlemen, we want the record to show that the City of Weyburn supports the Rafferty-Alameda dam proposal for the stated economic reasons. I thank Environment Canada for allowing us to submit this brief. Thank you.

MR. MILLARD: Thank you. Ken Swenson?

KEN SWENSON: My name is Ken Swenson, I am the Mayor of Midale, I am here tonight representing the Souris Valley Antique Association, it's a museum in Midale.

I have been a businessman in this community for a good many years, and speaking on behalf of the Souris Valley Antique Association, we are deeply aware how the fortunes of the agricultural sector affect our area. We support and continue to support the Rafferty-Alameda project because we believe in its ability to moderate what have been really bad years.

Reliable water supply is crucial for cattle and grain farmers. Our principal concern is that we don't feel the agencies outside of this area have taken the EIS prepared by the Authority as a serious commitment. We have and we will be involved in the work the Authority does. We have worked closely with them on the relocation of Mainprize Park and believe they will be held to their commitments. Their mitigation plans tell us what they will do, not what they might do.

The Rafferty-Alameda represents an opportunity to turn past dreams into realities. While we are sensitive to the environmental concerns, we are satisfied that they have been sufficiently addressed in the mitigation strategy. The EIS prepared by the Authority has a good common-sense approach to protection, relocation of Mainprize Park, and compensation to those affected.

The river is not deeply cut, the banks are low, and spring runoff can and has flooded our families out of their homes. You cannot measure the hardship without having experienced it. There have been times when we have watched our years of work and effort at Mainprize Park be washed away.

Our land is our livelihood. Rafferty-Alameda offers us the protection that our parents, and for some of us our grandparents, dreamed of. The dams and the reservoir can assure us of an end to the flooding and the opportunity for reliable water during dry years.

We, the Souris Valley Antique Association, need this project to protect our way of life and our heritage. It will promote regional development, effective economic diversification and tourism. We believe that we can do it all without compromising either the environment or our economic future.

You hold in your hands the dreams of our forefathers and the future of our children. Rafferty-Alameda must be allowed to proceed with the assistance of Environment Canada, not with obstruction. Thank you.

MR. MILLARD: Jim Reed?

MR. REED: Mr. Burns, Mr. Millard, ladies and gentlemen, good evening.

My name is Jim Reed, I am the Mayor of Oxbow. I have lived in the Oxbow district all my life. I served on Town Council for 14 years, with this my second term as Mayor. Prior to being elected Mayor I served many years on Town Council as general government chairman. I have also been in business in Oxbow for 26 years. Therefore, I feel that I understand the town's economic situation as well as anyone.

Jim Reed
Oxbow, Saskatchewan
Friday, June 23rd, 1989

I prepared this brief to address the many concerns that I personally have, and also the concerns that I have which are representative of the Town of Oxbow. I feel, based on the amount of people who have voiced verbal support and signed petitions, that my views represent, for the most part, the views of at least 90 percent of the citizens of Oxbow.

Not one person sitting here today needs to be told that our area is dry. The fact that the Alameda-Rafferty project could provide a chance for some irrigation is a plus in itself. Our town, my town, is dependent on a continuous clear, clean water supply from upstream. We have a major concern with upstream sewage waste, chemicals, etcetera. It has not yet been determined how long we can rely on natural filtration provided through our wells if river pollution continues. The Alameda project will provide us with the needed alternative of a constant, dependable water supply for our community.

Last summer, in the extreme dry periods, our wells came very close to drying up, and water rationing became a reality. We were forced to deny our farmers water for their cattle. Many towns in southern Saskatchewan have experienced this problem over the last two years.

A good water supply to our town also means that we must guard against flooding. Floods do a great deal of damage to our wells and our water supply. The Alameda dam will provide good flood control.

Flooding on the Souris River has been a problem many times over the last hundred years. The damage to the land and buildings is repairable, but the human damage is not. Lives have been lost during the floods. The first person buried in the Meridian Cemetery south of Glen Ewen was an 18 year old boy, Thomas R. Jones, who drowned in the Souris River while it was in flood in the year 1887. In 1969 the flooded Souris claimed another life, that of Paul Bjorndahl (ph) of Glen Ewen. Bridges, roads, basements, and houses have had to be rebuilt because of flooding. The chance to control this is certainly worthwhile.

In 1976, during the flood, I was Protective Services Chairman on Council and co-ordinated the town's fight against the raging Souris. I witnessed the devastation the flood caused and the despair and the frustration of its victims. No one will convince me that flood control is not an important issue today.

While I speak of floods and water usage, I do not want to neglect the environmental issues which we hear so much about. Ducks, owls, flora and fauna, we will have to displace a few of these. However, I weigh this against the human element. The farm economy will benefit from irrigation, everyone will benefit from flood control, our town will especially benefit from the increased potential of a recreation project and, I repeat, water.

We need to diversify so we are not wholly dependent on agriculture. A new recreational development means more people, which will create more employment, an element sorely needed in these desperate economic conditions.

A Toronto Globe & Mail article dated June 1st, 1989 states: "Farm income off 11 percent in rainless '88." It goes on to tell us because last years summer drought damaged crops across the prairies, Saskatchewan was the hardest hit, with our total net income dropping to 162.8 million from 736.8 million in 1987. Saskatchewan farm income dropped a disastrous 78 percent.

Put it the other way. This means that everywhere the average income dropped 11 percent in Canada, but in Saskatchewan, to make up for this drop, net income this year will have to increase 435 percent to reach the 1987 level. I do not have to explain what this drop in farm income has done to business in our community.

Business depends heavily on the agriculture dollar. The damage has been drastic. 10 to 15 percent of the houses in Oxbow are for sale, with signs on their front lawns. We have had business closures. I don't want to suggest that the reason for losing three businesses this spring, and possibly at least two more in the near future, was the suspension of the federal licence for the Alameda-Rafferty project, but I can't help but wonder if this project would have given these people a bit of incentive, some hope that if they struggle a little longer, things might be better. We need a substantial improvement in the economy of southeastern Saskatchewan to turn this trend around.

I want to compliment all the people who have a genuine non-political concern for the environment. We all have the environment in mind, for we must worry about the future of our children and grandchildren. I grew up adjacent to the valley six miles north of the proposed dam site. My great grandfather homesteaded and farmed there, followed by my grandfather and my father. I am, therefore, well acquainted with the proposed flood area and its potential.

The excitement that has been generated by the Alameda-Rafferty project must not be allowed to disappear, but encouraged to flourish. We have to work hard for the continuance of this project. It will help reverse the economic decline which plagues our area. We must ponder our future and the future of our town, and encourage the construction of the Rafferty-Alameda dams immediate before it's too late, before our town disappears into the dust from whence it came.

In conclusion, Webster's dictionary defines the word "environment" to mean the sum of external influences affecting an individual's development, surroundings. Every study, every brief, every person favouring the dams has addressed the concept of improving our surroundings and lifestyle. The individuals and groups who oppose this project likely would oppose anything the Grant Devine government wants to do to improve Saskatchewan, or they are so far removed from the area, so uninformed, so politically biased, or so apathetic, they cannot grasp the necessity for the project.

On behalf of the Town of Oxbow, I thank you for your kind attention, I commend you for your concern and compassion you will show our community by rapidly granting the federal licence to proceed with the Rafferty-Alameda project.

MR. MILLARD: Ken Mahan.

KEN MAHAN: My name is Ken Mahan. I am sorry, Mr. Chairman, committee members and ladies and gentlemen;

My name is Ken Mahan, my wife and I operate a farm and ranch in the Souris valley southwest of Oxbow in the Souris River. The Moose Creek flows into the Souris River on our land, therefore we are concerned about the outcome of these hearings.

The reason for most of us gathering here is to put forth our viewpoints for or against the Rafferty-Alameda dams. For my part, I am in favour of the building of the dams.

Some of the reasons for my wanting the dams are a good supply of fresh water in the Moose Creek and Souris River channels all year round. Every spring, the runoff we get runs through in about two weeks and then the channels dry up and stagnate. It would be more beneficial to the people downstream if the water were stored in dams and released at specific intervals during the year. At the present time, the only water we get down the river is when Estevan and Weyburn flush their lagoons directly into the river, and we never hear any outcries from the environmentalists when this takes place, but we definitely hear about the pollution that the dams are supposedly going to produce.

Another positive aspect of the dam is the flood control. Most of us who have lived along the river or the creek have had some flood damage of some sort. Fences or buildings have been destroyed which adds up to thousands of dollars in Canada and the United States.

As a resident of Oxbow and one who lives in the Souris valley, I do have some concerns about the environmental impact and conservation of wildlife. In my opinion, the dams will improve the water quality and give us an adequate supply of water year round. Wildlife will relocate downstream. Furthermore, there is very little wildlife in the Moose Creek valley and there is no water habitat suitable for deer or waterfowl.

It is rather ironic that the people from the Yukon to the east coast of Canada protest this Rafferty-Alameda dam project when they have never seen the area which is going to be flooded, and have no idea how beneficial these dams will be to the province.

The Canadian Wildlife Federation and its members seem to have a double standard. It's fine for them to give out trophies for the largest set of deer antlers shot by one of their members, because some of these hunters have shot up to two or three animals to get a trophy, then they protest the building of the dams professing to be conservationists. In my opinion, these hunters kill more wildlife needlessly than the dams will. I hope there is some wildlife people, members here, because they will not be allowed hunting privileges on my land, and most of the farmers in this area feel the same way as I do.

In conclusion, I think that the dams would be most beneficial in the following ways:

- they will ensure an adequate supply of fresh clean water for rural and domestic use, and especially during periods of prolonged drought;
- flood protection for Canada and the U.S. can prevent thousands of dollars of damage;
- increased production of power and adequate reservoir for cooling the power plants in Estevan;
- habitat for waterfowl;
- recreation;
- irrigation; and
- employment on the construction of the dams.

In my opinion, the dams should be built, and the sooner the better. These type of studies and inquiries have been going on for 50 years, and it seems that the people who it affects the most have the least clout. These hearings bring out paid lobbyists and the political hacks who have an axe to grind and who have scared this government into stopping the building of the dam. I thank you for the opportunity to present this brief.

MR. MILLARD: John Gaschler?

JOHN GASCHLER: My name is John Gaschler, I am the Chairman of the Oxbow Tourism Committee. The purpose of this presentation is to make sure that Environment Canada knows the effect this dam will have on sports fishing in southern Saskatchewan.

Ladies and gentlemen, I am here this evening to talk to you about the Rafferty-Alameda projects and the benefit they will have on the southeast corner of Saskatchewan. First I would like to explain to you some of the concerns our committee have in regards to tourism.

The tourist industry is Saskatchewan's largest growth industry. Keeping this in mind, the Oxbow area and the southeast corner of Saskatchewan have experienced little or no growth. Our committee feels that this problem is two-fold, the first being that the southeast corner of the province is quite heavily populated, but have very few recreational facilities. The facilities existing in this area are usually overcrowded and in much demand, allowing little or no possibility to expand their tourist potential.

Secondly, the southeast corner, although quite diverse in character, does not possess what Saskatchewan Tourism calls a destination point. We feel that the two reservoirs that this project provide will answer these concerns. The possibilities to improve recreation and a destination point are only limited to our imagination.

The Souris Basin Development Association, in outlining their projects, have set aside areas that will meet these needs such as cottage development, beach areas, boat docking and marinas, and a healthy fish population have been addressed. Future and further expansion in other directions have also been examined, forming a well-rounded and well-thought-out project.

I have found a situation that is already a going concern and is similar to Rafferty-Alameda project. This type of development is Manitoba's Lake of the Prairies. It was completed in 1969, and fully operational in 1974. Dam height and width are similar to Alameda dam. Drainage basin, in size and use and average flow, are similar. Lake of the Prairies is not on two major highways whereas Alameda dam is located on two. Outdoor Canada, in its May 1989 issue, described Lake of the Prairies, and I quote, as "one of the best walleye fisheries in North America". Average use per year is 6,558 unit days. A unit is described as two adults 59.8 percent of the time, and three children 29.9 percent of the time, and their stays average between 10 and 15 days, of which 39 percent of these units are Saskatchewan residents. The units travel approximately 160 to 300 kilometers, which is from southeast Saskatchewan, a significant statistic. When asked the reason for using this facility the answer was 20 percent fishing, 17 percent camping, and 11 percent because it was close to home. These figures are only from Asessippi Provincial Park and do not include two private outfitting camps on the reservoir. To further prove the importance of this, the Province of Saskatchewan sold 170,082 fishing licences in 1987-'88, representing nearly $3 million in revenue from licence alone. Millions more of actual dollars are spent. The Alameda project has the opportunity to be an even more significant sports fishing reservoir than Lake of the Prairies, combined with Saskatchewan's shortage of recreational facilities, but particularly in the south the opportunity is very important.

In conclusion, the potential for recreation, the potential to stabilize our economy, the potential for new jobs both in spinoff and service industries, the potential for a more diverse rural community, and the potential for an internationally-recognized sports fishery is of such importance that we hope that you will join with us in endorsing the project, and that others interested in tourism will do the same. Thank you.

MR. MILLARD: Mitch Beriault.

MITCH BERIAULT: Mr. Chairman, ladies and gentlemen, good evening.

My name is Mitch Beriault. I am married, I have three children ages 16, 14, and 11. I am a farmer, a pedigreed seed grower, and have a seed processing plant on the farm. I have lived in the Alida area all my life. As Reeve of Reciprocity RM number 32, I am here to stand in support of these dams being built. I would also like to express my own and very strong support for these projects.

Water management is an issue we, Saskatchewan, should have thought more about in past years. We should have envisioned a system of dams, reservoirs, and canals to provide flood control and hold an ample supply of fresh water for our area. If these dams would have been built 30 years ago, we would not have to deal with environmentalists, some of them with political overviews.

Mitch Beriault
Oxbow, Saskatchewan
Friday, June 23rd, 1989

I feel these projects have become political rather than just common sense projects. I personally object to people living hundreds or thousands of miles away being against these projects. I wonder if they know all the facts? They have not seen where these projects are to be, and know nothing about our climate or the unpredictable flow of the Souris River. Have these people ever contacted any people that live in this area and that are going to be directly affected by the project? I personally believe that it is the people around the area that should be heard the loudest, and not the people from afar. Many people do not realize that much of the land being flooded is not good agricultural land, and therefore has a low assessment value.

We live in a semi-arid part of the country where water is a valuable commodity. With more water we could irrigate, there would be recreational benefits, boating fishing and swimming. After all, when we leave and go north fishing, some of the lakes are man-made. These lakes are away from home, and the monies that we spend leaves our communities. There are many reservoirs in our province, both large and small.

Our municipality has a small reservoir commonly known as Staples dam. Staples dam was a project built by the PFRA in 1949. I might add that in all the years I have been around, I have not heard one negative remark about that dam.

Estevan needs the water, Sask Power needs the water. If industry is to grow in Estevan and around our area, we are going to need more water, water that these projects could give us.

The people that I have talked to associated with wildlife would agree with me that these projects, in the long run, will not hurt wildlife, but will enhance both the number and kinds of species of wildlife at the reservoir and in the surrounding areas. Anyone having a body of water as small as a dugout can prove it to themselves by going out some evening and just watching. They will see a variety of animals coming for water to drink. It's a a place for them to hunt. That dugout will become the center of those animals' world. Why? Because water is survival.

Projects like these create many jobs, both in the short and long-term, jobs both directly associated with these dams, building and supplying materials, and jobs from the spinoff effects like tourism, for example, both now and in the future. We need these dams to keep our young people working in this area.

It's a good time to build these dams when the United States is willing to kick in $40 million. If we don't go ahead with these projects, I am sure that North Dakota will go ahead with some projects on the Souris to control flood, and utilize what would have been our water. It will fit right in under their Garrison diversion project. That would be a loss of $41.1 million to our province in the immediate future and mean millions of dollars of lost revenue in the future from agriculture, recreation, and industry. Thank you very much.

MR. MILLARD: Garnet Ball has some slides he wishes to show?

GARNET BALL: No.

MR. MILLARD: Okay. Sorry. We are going to take a break at this point.

GARNET BALL: Okay, thank you.

(Meeting adjourned at 7:50 p.m.)

(Meeting reconvened at 7:53 p.m.)

Garnet Ball
Oxbow, Saskatchewan
Friday, June 23rd, 1989

CHAIRMAN: To start with, we have an announcement about a lost horse.

GORDON STEWART: Hi, I am Gordon Stewart for anybody that doesn't know me. There is a horse strayed to my place last night and he's shut in my corral right now. He's about a 17-hand high sorrel gelding with two white feet on the passenger's side, and he had a green halter on, and I took the halter off because it had worn into his nose pretty far, but I would like someone to come and claim him, otherwise I am just going to turn him out again. He's in a corral a mile and a half south of our buildings, and I live on the Manor corner out there. Thank you. I am in favour of the dams too.

GARNET BALL: Well I have horses, but he's not mine. Good evening ladies and gentlemen, honourable members of the panel.

I am not a speechmaker or a writer, I am a farmer, a fourth-generation farmer. My family has had to contend with a lack of water for 80 years. I have hauled water for the last three years for my family and my cattle. You tell me that it's not smart to save water? I think we have almost papered this to death. I kind of think, in my mind, we have probably killed more trees to make the paper than we have when we flood the dam.

I consider myself an environmentalist. I am a hunter, I am a fisherman, I teach hunter safety, hunter education, I am a leader in the Cub Scouts. I work with these children every day. When I teach a hunter safety course, I say I am here because I want some environment and some habitat left for my children and my grandchildren. We are not all bad. I am a farmer, I am an environmentalist, I make my living from the environment and I live with it every day. I see the wildlife every day. I can only see benefits to the environment and to the wildlife.

I go down to Minot occasionally, and that's international waters. The people there want us to build that dam. They have had enough of the floods, they have had enough of the short water too. They were quite willing to put money into it, and they are 100 miles away. I can't see a problem. Why are we stopping now? There are jobs, there is recreation, there is benefits to everybody, far and wide.

Fishing and the quality of water, my dad brought me up as a fisherman from when I could hardly walk, and we fished the Souris River. I don't any more. There is no point. Now if there is water running down that river 12 months of the year, there have to be some fish following it. Not now. You go in the summer, and it's sloughs. I am 20 miles off the river, and I have sloughs, and they don't have fish in them. I can only see an improvement in the fishing industry, or sports fishing at least.

Waterfowl. I am reasonably close to Redvers. Redvers, up in that area, they have the prairie pothole project. You talk to the boys there. They are having a deuce of a time trying to get anywhere because of lack of water. Now if we have two man-made, granted, lakes, I can't see where we are going to lose waterfowl. We have lost them over the last three or four years purely from lack of water. So on the long haul, in 15 or 20 years, I myself believe that we will be at a net gain, not a loss. They need the water just as much as I do and you do.

Water quality. My mother [illegible] Redvers. Maybe somebody in Saskatoon or Regina, Montreal can't understand what it's like when the tap is turned off, when you have to boil your water that the town provides because it isn't safe enough to drink as is. The Town of Redvers was drinking dugout water, but at least it was water. It's easy to say that it's not good for you when it doesn't affect you. It affects us, though, and it's time we said something.

Navigable waters. And he said don't laugh, and I am going to. I just talked to a fellow back here, and he's the only fellow I know that navigates the Moose Creek about three days of the year in a canoe, and that's about it. Even on the Souris I understand, and I don't know whether it's fact or not, but in the early days they did bring grain down that river. Those days are long gone. Surely, with all the money that's being spent, and we as a society have put men on the moon, I am sure we can find a way to satisfy the environmental needs. I don't think it's impossible. There has got to be a compromise. We, as Canadians, are supposedly conservative and we believe in the Canadian way, which is compromise. I wish the other side would believe in it too.

I haven't got too much else to say. As you probably know, I didn't write my speech, but I am speaking from my heart, and I would encourage anybody else to do that too, because I think that's where it counts. Thank you for your time.

MR. MILLARD: Thank you. Lou Oatway?

LOU OATWAY: Honourable panel, people from Environment Canada, ladies and gentlemen; my name is Lou Oatway, and I am a businessman in the town of Carlyle. I presently sit on the executive of the Carlyle and District Chamber of Commerce, and I was president of that organization for four years. I am also on the Board of Directors of the Moose Mountain Tourism Association, and I also sit on provincial Board of Directors of the Saskatchewan Chamber of Commerce. But as I started off by saying, I am a businessman.

The Rafferty-Alameda dam project is beneficial to this basin. The support for the project is clearly evident amongst the residents and the business community. A project like this is the impetus for expansion and stability in our area.

I would like to talk a little bit about the IEE. The draft Initial Environmental Evaluation gives us an historical overview of this project detailing the setting, the history of water management, and a physical description of this particular project. As we pretty much all know by now, the dams were first proposed in the early 1900's. Since then, study after study has been done, including the one that we are discussing here today.

The IEE makes reference to a 1970 study called the Souris River Basin Study which was conducted jointly by the governments of Saskatchewan, Manitoba, and Canada. What is amazing about this 1970 study, as mentioned in the IEE, is its perception of the local mood. As the IEE states, and I quote:

> "This study identified a strong local interest in water storage and control structures on the Souris River."

It concluded that such a project would only be feasible with a major industrial use to defray those costs of doing that. It should be pointed out that this study was done in the early '70's when the severe water shortage did not exist, as we all know it does today. If the project was feasible in average flow years with the inclusion of a major industrial use, imagine now the cost benefits comparison today, with the certainty of the Shand going ahead. Add to that a commitment from the United States to give us 41 million to provide for flood control. This simply states to me that it's pretty good common sense, and by all means good business sense, if we proceed now.

The federal government has a responsibility in ensuring economic development and diversification in regions other than Ontario and Quebec. We are not second-class citizens here in Saskatchewan.

The Department of the Environment has a mandate to study environmental impacts of this project. However, I believe it is necessary to place this study in terms of a larger picture, which is sustainable development for the basin area. By narrowing its focus on those aspects which

Environment Canada feels resides exclusively within its jurisdiction, it then neglects to view the project as a whole.

In its effort to study the project, Environment Canada must also look at the people involved directly and indirectly with this project. The stopping of the project meant an immediate loss of jobs for those people working on the dams. These people had made plans and choices in their lives based on that construction schedule. They have now been placed in difficult, if not severe, financial straits and conditions. These people brought their families to Estevan and the surrounding towns, and it caused a need to expand the existing infrastructures in these local communities to serve them.

Some communities have had to borrow money in order to proceed with these expansions. Now the communities have to grapple with the idea of raising taxes substantially on the local residents because the payments on that borrowing can't just be put aside.

The construction companies had to borrow a lot of money to purchase necessary equipment to build the dams. These companies, expecting construction to go ahead, are now highly leveraged. With no construction happening, there is no income, and so as a result, no payments can be made to the lenders, the borrowers, or to the workers. This is devastation in our area.

This project is more than acceptable from the environmental point of view, and it must be recognized by Environment Canada it is also beneficial from an economic point of view. It is a necessary project from the residents' point of view, and in my opinion it's a pretty good deal for everybody involved.

I would like to thank you for the opportunity of making this presentation on behalf of Carlyle, and I present it to you now.

CHAIRMAN: Doug Waugh?

DOUG WAUGH: Mr. Chairman, ladies and gentlemen, good evening. My name is Doug Waugh, I am a businessman from Carlyle, Saskatchewan. I have lived in the Carlyle area for seven or eight years now, and I have been proud to come and give my opinion of what this dam is all about for this area.

I just drove down here this evening and just took a look. I guess we should have had this meeting this spring, Mr. Chairman, when the dust was blowing here and you couldn't see on our highways, and our creeks were dry, our dugouts were dry, and here we have got an opportunity to save water which we have let go for years and years in this area. We have had numerous times, I lived in Estevan for 13 years, and I have lived there in three floods, and a friend of mine has a cottage right down in the bottom of the valley and the cottage, the water was level with the top of the roof in the cottage. Now our whole complete area is dry, we are getting someone to pay us to build a dam, water that we have that completely goes by here and we can't save it, and we are not taking the opportunity.

We have got a bunch of bureacratic people down in Toronto and Ottawa that don't even know where Oxbow is, or what we have down here, and they are telling us. We are the ones that live in this community, we are the ones that raise our children in this community, we are the ones that want to keep our children here and let these communities grow, because they are dying.

I have been in the car business in Carlyle for seven years, and I was in the car business in Estevan for 12 years, and since I moved to a smaller rural Saskatchewan town I have seen smaller towns around there just completely die, and they are getting smaller, and smaller, and smaller because our business base is not here. We don't have the population. I can't imagine that we could have approval on this, and it's become a political ball that is being thrown around here.

Doug Waugh
Oxbow, Saskatchewan
Friday, June 23rd, 1989

I listened the other day to the hotline on CKCK, and we had someone up there telling us, who lives 150 miles north of Saskatoon, what our area is like, and he has never been down here.

I don't think there is anybody in this area who farms who don't need water. I have heard the gentleman tell us that Redvers is running out of water. Well, water is going to be a very, very scarce commodity in the years to come. Our resorts, I have a cottage at White Bear Lake and Kenosee and the lake, last year, dropped 14 feet of shoreline, and in the last two years it's gone down 35 feet, and we keep drying up, and drying up, and we are doing nothing about it. We have the opportunity here, and we have had the opportunity until our environ-mental people say that there is something the with saving water, and I can't hardly imagine(why the environmental people would say that).

I have been a hunter all my life, I have hunted this valley up and down and now, I mean, you don't need a boat to go in theriver, you need a four-wheel drive because you can drive literally anywhere, and we don't have it. The water leaves our province and goes into the United States, and they know how to build dams. Just take a trip in your car and drive from here down to Nevada and count the dams they have built down there. They have got fish in them, they have got geese in them, they have got deer, they have got everything. We won't have any of that pretty soon if we don't save some of our water.

I guess, in closing, I would really like to comment that at one time we were worried about saving our, the money that we are getting from United States to save water to build a dam, and now we need the dam, and we don't even want to take advantage of the money that they are going to pay us to build a dam in Saskatchewan to save our water, and to me as a businessman, it don't make any sense. There is nothing that anyone in the world could ever say, take a look at some of the Asian countries that are drying up and are starving because they don't have water, and if we don't have some rain this year, and it's a shame, basically, we have been getting some rain, because if you would have seen what this country was a month ago, you would have seen how dry it is. So in closing, I would like to say please give us the support, take it back to Ottawa and tell the bureaucratic people like get off your butt and let's build this dam and get this country going in the right direction. Thank you.

MR. MILLARD: Thank you. Glenn Gibson?

GLENN GIBSON: Ladies and gentlemen, Mr. Chairman, my name is Glenn Gibson, I live in Alameda.

I have read the IEE, which is based on a flowing stream of water. Well we don't have one. How do you talk about water quality when all we have is a river bottom with potholes filled with stagnant, algae-covered, stinky water? Mr. Bouchard, do you realize we are dealing with three valleys with no flow? You know that they only gush once a year from snow melt? We let it all go. We who live here know that they can flood like hell. This river and creek flowed for hundreds of years. It no longer flows year-round. Does this not tell us to conserve and control our water?

Last summer I took a drive from south Alameda to Estevan along the Souris River. The potholes that had water in them were covered with green algae and they stunk like hell. It was not fit for man or beast. The Moose Creek was dry as a bone. I was also down to the Oxbow dam at spring breakup, and that same stinky, dirty, yellow water was on its way to Minot. I drove to Minot to see what the water looked like at the Minot weir going over the weir at the Minot Zoo. It was also the same dirty, stinky, yellow water.

We are supposed to be concerned about the water quality that's going to North Dakota. Well the way it is now, it couldn't be worse. Saskatchewan has absolutely no control of water quality, or the water, without the dams. Saskatchewan has no control of the water quality after it enters into North Dakota. Building these dams can give us the opportunity to give cleaner water to both North Dakota and Manitoba.

Glenn Gibson
Oxbow, Saskatchewan
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The water in the Alameda dam will be 115 feet deep, the Rafferty will be 60 feet deep. Deep water is cold water. Algae does not form on cold water. So by letting cold water out of these dams in the hot months, it will flush out the potholes before they get stagnant and covered with algae. Keep it moving and clean. Give wildlife a fresh drink of water. This way we won't pollute the water downstream with stagnant water like we are doing now. At least, when it leaves Saskatchewan, we will know that we did our best. The law reads we can keep 50 percent of the water. Tell me, how in the hell do we keep the water if we don't build our dams? When Rafferty is built, Estevan sewer will no longer dump into the Souris River, but will go into the Shand cooling pond. This is another step in cleaning up the Souris River.

We, the people of southeastern Saskatchewan, want the dams. We live here. We have the signatures of 31 mayors in southeastern Saskatchewan who say we want the dams. This includes Estevan and Weyburn. 92 percent of Alameda wants the dams. Oxbow is 90 percent. The Wildlife Federation wants the dams. Just a very small group don't want the dams. We who live here know what is good for our corner of the province, and we are willing to trade the environment in those two valleys for a better environment, with water, for humans, birds, and animals.

The Wildlife Federation now sees this project as a good project. More wildlife habitat will be created than we had before. All environment requirements will be met. We have everything to gain. Ducks, geese and all other birds coming in from North Dakota in the spring will have more nesting areas. We will also create a fish habitat which we do not have now, a habitat for beaver, otter, muskrat, mink. They don't have any water now.

They keep mentioning flood control for a foreign country. Are Estevan, Estevan Park, Roche Percee, Northgate Park, Oxbow Park, Saskatchewan farmers, Souris and Melita, Manitoba and their farmers all part of a foreign country? North Dakota is paying for their share.

The NDP built most of the dams in Saskatchewan, including Boundary and Coronach, with no environmental studies. These dams were good for us, and they still are. What would we do without them? Try and take away Boundary dam or Coronach dam. That would start a bloody war. Now the same people are attacking and trying to discredit our dams. Where is their logic?

Flooding an Indian artifact site has also been mentioned. This is one of 15,000 known sites in Saskatchewan. Most of the sites are farmed by farmers. To my knowledge, this one is dug and relieved of its treasures.

The life of a power plant is 30 years. Boundary is now 30 years old. It's time for a new plant that will meet environmental standards, one that meets our power demands. Let's employ our own people, and use our own resources. We want jobs for our children. 700 jobs are sitting waiting for this study. I know the study will make us more aware of our environment, which is good, but let's be honest. A lot of the environmental concerns have taken a back seat to fabricated stories. Let's keep it clean.

Irrigation has been put down, but we are all aware that it depends on the soil you irrigate. If done properly, most areas can be irrigated. People are irrigating all over the North American continent.

They say Shand should be air cooled, but Shand is not designed for air. Air cooled was studied and found not economical, water cooling was far cheaper.

The ferruginous hawk is endangered, but only one nest was found on the Rafferty site, and none on the Alameda site so that hardly classifies the sites as a nesting grounds for them.

Glenn Gibson
Oxbow, Saskatchewan
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The Alameda dam will be one of the cleanest lakes in Saskatchewan. Absolutely no sewer. This body of water could, in the future, be the only source of water for Alameda and Oxbow. One foot of evaporation per year is expected, not 60 percent as the opposition lets on. The opposition says build small dams. This contradicts all they believe in. Small bodies of water still have more evaporation, more algae, more mercury, and more mad farmers, and spoil more bottom nesting land habitat. We have 40 dams and weirs on the Souris River now, and it still floods. Build more small dams and it will still flood. You need big dams for flood control. Where is their logic?

Mr. Orchard, he's claiming building these dams is a ploy to send water to the Americans. Can you imagine the environmental study to cut a channel 100 miles long? The Qu'Appelle River is at the bottom of a 200-foot canyon, so the canal would have to be 200 to 400 feet deep. It would cost billions. Then again, why would we build these dams to obstruct the flow? The real ploy was to sabotage our dams.

Let's look at it another way. These valleys once flowed wider and deeper than we want to flood now. Water erosion has dug these valleys to where they are now. When they were full of water we used to catch lots of fish, swim in it. Now we don't have any fish and we can't swim. How many kinds of birds did we have when it was full? Could it be because there is no water that some of these scarce birds are no longer there? Just maybe, with our dams, they will return with all the other birds that need water.

Basically we are asking if we can put a small portion of these valleys back the way they were for hundreds of years. Let's not put our political egos before the people of southeastern Saskatchewan. Let's all be aware of our environment, but let's not stop creating jobs. Thank you.

MR. MILLARD: Thank you. Grant Whitfield? Grant Whitfield not present?

SPECTATOR: I don't think he's here.

MR. MILLARD: Okay. Thank you. Charlie Sieberder.

CHARLIE SIEBERDER: Mr. Chairman, ladies and gentlemen; I am presenting this brief on behalf of the Oxbow Business Association. My name is Charles Sieberder, and I am the owner/manager of Sieberder Lumber in Oxbow. We, the Oxbow Business Association, realize the importance of water. We must manage it. The only way we can manage this resource is to build the proposed dams, Rafferty and Alameda. We therefore fully endorse this project.

It is our firm belief that through proper management, the whole territory and the people in it will benefit by this undertaking. We cannot afford to let these projects die. Now is the time to act. Let us proceed. With dismay and disbelieve we heard about the shutdown of the Rafferty project. Now, at the height of the construction season, men and equipment are laying idle. Soon the inclement weather will be upon us. One valuable season lost. With the shutdown, we feel that time has turned back on us, and we must now make every effort to get this important undertaking for this area on its way again. It is our belief that the environmental studies have been carried out in thoroughness, and every consideration has been given to the impact of these projects.

The Town of Oxbow is drawing its water from several shallow wells in the valley about 100 yards from the Souris River. The weir below the wells is assuring the necessary storage of water. This reservoir, in turn, is feeding the underground streams to the well. With no spring runoff, and with sparse rain in '87 and '88, the water reached a dangerous level. Water rationing was introduced. Fortunately, the 42 inches of snowfall during this last winter, and the consequent runoff, replenished the reservoir to full again. This assures the water supply for at least one more season. What would have happened if the runoff would have not come? Can you imagine the people of Oxbow not being able to water their lovely trees and gardens and lawns? We would lose the beauty of the town. With the construction of these dams we will create larger reservoirs, and this will provide water release if needed during the dry summer months. This is planning for the future.

Besides the agricultural benefits, the industrial benefits, and flood control, the Oxbow Business Association realizes the potential of future recreation at the Alameda dam. The whole district would see an influx of tourists. Development would take place over time as recreational facilities become better utilized. The creation of this large reservoir will result in a shift of the public interest from the Kenosee Lake and Carlyle Lakes area. We will attract people from North Dakota, as well as residents of southern Manitoba and Saskatchewan. Alameda and Oxbow will be the main beneficiaries of this recreational development. We must plan now and think about the future.

In conclusion, I would like to include my personal note. I have lived in Oxbow since 1950, that is to say 39 years. During this period I have made certain observations in regards to weather and climate. We are experiencing a climatic change in the prairies, warmer temperature, less precipitation. The first ten years I lived in this district, during the winters a lot of snow and cold temperatures, in the spring a good runoff, lots of water in the Souris River and Moose Mountain Creek. In most years the flow, in full, lasted until the middle of July. The sloughs and low places were full of water. Wherever one looked there was plenty of water. In the '70's, less rain. In the '80's, even less rain. In the last four years there was no snow or very little. The summers were hot and dry. Sloughs are empty, wells are running dry, the ground water table is at its lowest level. In the last 20 years we have gone from one extreme to the other, from no water to devastating floods. We need to have the control and the management of our water supplies.

Now one travels, for instance, through Moose Mountain park or the White Bear Lake resort. Small lakes have totally dried up. Water levels at both Kenosee and Carlyle Lakes are falling at an alarming rate. Where will it end? It is an established fact water vapour rises and builds clouds, and consequently it should rain. I have spoken to people from the Diefenbaker Lake area. They have, since the creation of this dam, received more plentiful precipitation. It is my firm belief that, by adding these large bodies of water, the Rafferty and the Alameda dams will contribute to additional evaporation. Let us proceed with these much-needed projects. Thank you.

MR MILLARD: Thank you. David Spencer?

DAVID SPENCER: Mr. Millard, Mr. Burns, ladies and gentlemen, good evening. My apologies to those of you who are lower than 16 on the list. I have waited long enough and I am nervous enough, now, I may never get through this.

My name is Dave Spencer and I live at 835 Prospect Avenue and I collect my bills from Box 835 at the Oxbow Post Office. I can be reached at Oxbow Prairie Heights School between the hours of 8:00 a.m. and 10:00 p.m., the phone number there is 483-2383, and at the place I sleep, the phone number there is 483-5281. I maintain an excellent secretary there. She is presently right there looking after our kids.

I am here tonight to present you with as many good reasons as you need to recommend the building of the Alameda dam as soon as is humanly possible. I work as an administrator at the local high school, and I would be very happy never to hear the words "falling enrolment" again.

I have worked at the school since I graduated from the University of Regina with a B.Ed. in 1974. When I first came here we had over 100 students in our Grade 10 class alone, this year we will be lucky to find 40, and our Grade 6 enrolment could be as low as 16. Just what has that got to do with your panel? Well it's quite a bit the way I see it.

David Spencer
Oxbow, Saskatchewan
Friday, June 23rd, 1989

I teach geography and economics and social studies and history at the high school, some of those classes to the sons and daughters of the people sitting here tonight, and they can vouch for the fact that I beat the environment to death, from the dangers of farm chemicals to the destruction of the ozone layer to the dangers of acid rain or the greenhouse effect, but if the primary consideration of this panel is to protect birds, fish, and turtles, then you might as well designate the whole of southeast Saskatchewan as a wilderness area because there won't be any people living here. Maybe it's just coincidence that within a couple of weeks of Mr. Cullen's pronouncement our hotel and our meat market closed their doors. This comes on top of the collapse of our Case dealership, Dodge dealership, our independent grocery and dry goods store, our independent hardware store. Most of the businesses left in our central business district are either hinting or completely up for sale. Only difficulty is nobody in their right mind, without some kind of prospects for this community, would buy them.

The environmental impact of a decision not to proceed with the dam represents the destruction of the potential for continued human habitation of the area. This is next year country. The dam holds out a promise of better times ahead. Water, controlled, dammed, usable, a move to more intensive agricultural practices that would keep our young people at home working, a promise of recreation sites here at home, a promise of industrial development, more jobs for our young people, more money in the local economy, and yes, even more students in our schools.

Our town draws its water supply from three wells located in the Souris valley south of town. The aquifer is fed by the Souris River, and we have faced water shortages and the resulting rationing many times. Last year we had to delay the filling of our swimming pool because, guess what, there wasn't any water. We even had to cut off the water supplies to our rural neighbours. The reservoir resulting from the dam would put an end to our constant search for water.

We are a proud and independent people. We paved the streets in this town without a nickel of provincial or federal funding, our recreational facilities are independently owned co-operatives, we pay our way, and we look any man in the eye, and we do not beg lightly, but on behalf of my family, my school, my community, my friends and myself, I am asking you to consider most carefully the human elements that are involved in any decision that prevents the building of the Alameda dam. This is a decision best left to the people who live and work right here in Saskatchewan.

We have already voted for the government, the Premier, the Deputy Premier who have promised to build this dam. The motto of our community is Progress with Pride, and I would be damn proud if your recommendation would be to allow this progress to go ahead as planned. Thank you very much.

MR. MILLARD: Thank you. Ray Trafford?

RAY TRAFFORD: Well, Dave, if you think 16 is a long ways down, I guess I am one down farther than that. Mr. Chairman, members of the review board, ladies and gentlemen;

My name is Raymond Trafford, I live and operate a dairy farm with my wife and two sons on the north bank of the Souris River approximately two miles west of number 9 highway south of Alameda. Being a dairy man, I know what chewing cud is all about. You are going to get another wad of hay.

Having lived and farmed there for the past 20 years and having seen and been involved in helping during several floods, and also during the past several years having seen the drought conditions take their toll on the area and on the river, and watching and waiting for, with some frustration, all the pros and cons of the Rafferty-Alameda projects, I feel, at this point, it may be necessary to once again make some points of concern clear, and to the heart of the matter. If I seem blunt, it's my intention.

There has been, as we all know, a great gathering of opinions regarding the matter. Perhaps some pointed questions regarding the project, its mandate to do things justly and fairly to the board will perhaps help in the final decision.

One reason we are here tonight is to shed some light on the matter from Environment Canada's position and to a lesser degree, perhaps, answer some of the Canadian Wildlife Federation's concerns. I will direct my few points and comments, therefore, to Environment Canada and the Canadian Wildlife Federation, and trust some of them will be looked upon fairly and rationally.

I believe one of the main reasons for the building of the Rafferty-Alameda dams is flood control. Where were Environment Canada and the Canadian Wildlife Federation some 15 years or so ago when the indiscriminate drainage and channeling of the upper Souris basin was taking place? That was a natural wetland, one that surely the Canadian Wildlife Federation should have seen as being valuable, yet not a word was spoken. The result of that program was, in my opinion, one of the major reasons for the past several floods. Now when the problem is getting some attention, and perhaps could be controlled or even reversed, we get all kinds of input from CWF and Environment Canada, hardly fair in my opinion.

I have been told by old timers who have lived in the Souris for years and years when there was so much snow you could hardly get out of the valley on a horse and it didn't flood. So what went wrong? Indiscriminate draining and interruption of natural settings. The damage has been done. What we need to do now is control the water and lessen the chance for future floods. Would Rafferty-Alameda dams not go a long way toward the control and also create a new wetland?

Secondly, I ask the question of water quality, certainly a valid concern, one we should be all aware of. Will the dams hold more chemicals and pollution than is now entering the system? There are thousands of dugouts, potholes, small dams, catch-basins in the Souris River basin area and I hear very little, if any, concern about the water quality of them by Environment Canada or the Canadian Wildlife Federation. Why the huge fuss over the Rafferty-Alameda dams? Does it make a difference where the pollution collects? Now it is all going to Lake Darling and other points in the U.S. and Manitoba, and I don't hear too much of a hue and a cry from those people.

If Boundary dam is in such bad shape pollution-wise, is it in such bad shape pollution-wise that it is dangerous? I haven't heard much in that regard. The City of Estevan uses water from the reservoir for domestic use, there is an abundant supply of marine life and waterfowl, so it appears to me we ought to take a hard look at the results of a decision to dam the Long Creek portion of the Souris basin years ago. As far as I can see, the results are all very positive. Why could the results not be the same for Rafferty-Alameda? The quality of the water can be enhanced by control.

The final main area of concern to me is the wildlife habitat. 6,100 hectares of land flooded is certainly a goodly area, and there will be some displacement of some wildlife, the main one being deer. In observing deer all my life, I find them quite adaptable and have no concern for their welfare. The deer are quite versatile and mobile. They will move to other areas of shelter. As far as food goes, the enhanced irrigation made possible by a water supply should give them a bigger area than they have now for foraging. We feed them good alfalfa and grain all summer off of our farms, and if it's a tough winter we feed them from our hay stacks or the Department of Tourism and Renewable Resources feed them. The deer will have, and have done, very well in the past. The extra 61 hectares of water will only enhance the waterfowl situation here.

The final concern I have regards the much-needed benefits of a good water supply in regards to agriculture, the economic benefits and spinoff of the recreations possibilities, and the necessity of bringing Shand Power Station on track. I take some exception to the fact that we are told by some opponents of the dams that we are not right in wanting security, expansion, and improvement for our area. Look around and see the struggle small-town Saskatchewan has. In this area, the building of Rafferty-Alameda dams, in my opinion, will help delay and perhaps even reverse that situation for small towns and municipalities, in giving them a much-needed boost.

I believe we have enough positive results from Boundary dam, Lake Diefenbaker, Tobin Lake in the north to realize that building Rafferty-Alameda can only enhance and expand and make better our way of life in the Souris basin and area, and in so doing help the province, and if Saskatchewan is helped, then all of Canada is helped. Thank you.

MR. MILLARD: Thank you. Jack Twietmeyer wants to set up some slides, so we will take another brief break to permit that to be done.

(Meeting adjourned at 8:44 p.m.)

(Meeting reconvened at 8:56 p.m.)

MR. MILLARD: Can we come to order, ladies and gentlemen, please?

JACK TWIETMEYER: Good evening Mr. Chairman ladies and gentlemen; my name is Jack Twietmeyer, and I have lived in the Oxbow area all my life. I live in the Town of Oxbow and I farm south of town.

I am concerned with the fact that people who do not live here have not been given a clear picture as to the flood of the Souris River and the Moose Creek or the actual wildlife situation. I have prepared a very short slide presentation so that you could see the real impact of spring flooding. I feel that outsiders cannot fully comprehend what we are talking about unless they see it. I have white water canoed down Moose Mountain Creek a good many different years, but it is hard to visualize this when we are in the midst of a drought.

Having the dam in place should control spring flooding to a great degree. Even if it slows things down and lets the water out in a lesser volume, it will help further downstream. If we are fortunate to have spring runoff, it will be possible to keep the water for later use, and it will not be lost downstream. Spring runoff is not the only water to harness, often a heavy rain will result in a rise of the creek, so water management is a priority. My great grandfather homesteaded on the river south of Glen Ewen, and I assure you that there has been many floods on the Souris River in the past hundred years.

Good water management can go right along with good wildlife management. I am an avid hunter, and I have hunted ducks in practically every pothole in this area, as well as many other areas. The number of birds which I have seen in recent years has declined due to drought and drying up of the natural habitat. Claims have been made that the dam will take away the natural habitat, but I don't see that it will be detrimental to wildlife. There is an adequate area along the river to support birds and other wildlife. If there is zero runoff, we still seem to support our established wildlife. Certain endangered species will probably be like a lot of river people and find it easy to move up the hill to higher ground. In dry years where ducks nest in the few potholes along the creek bed that soon dry up, they become dinner for predators and coyotes and foxes and hawks and the like. They find these little ducks easy prey because they have no water to find safety in. A lake, dam, or reservoir would be a real asset for its wide expanse of water. It will also cause ravines and inlets to back up with water and provide ideal nesting grounds all summer long. These will be natural habitat.

Wildlife brings more wildlife, just as large bodies of water bring more rainfall. Birds which come in the fall naturally group up in a good spot. If managed properly, these could be the real plus, by making the water area a restricted hunting area. With no hunting within 500 meters of the water's edge, we again provide a refuge. Hunting could be done in the fields away from the dam and could be easily controlled by the conservation officials. A safe refuge is a good idea, and these ducks would certainly go to a large body of water somewhere else. Farmers along the dam may have some bird damage, but this is not a great concern as there is an adequate compensation for such damages by the DNR.

I feel that some of the figures presented in the initial report are inadequate. I would like to have someone explain to all of us how some of these numbers were arrived at. There have been many biased blanket statements made concerning marshland and outland areas of draining. These areas only support our system when they themselves are full and it has been a few years since they have been full, enough for the overflow to make its way into the river. Once the runoff water is in the system, we may as well make use of it. The water is no good to us rushing off downstream, disappearing in a little short time.

Being a farmer, I understand the type of land which is being covered by this project. It is exceptionally poor land, so the chance of having a good dam and reservoir should be endorsed.

Another consideration of the dam is recreation. I travel up north regularly to go hunting and fishing and the chance to go fishing practically in my own back yard is a wonderful idea. This recreation area will also bring tourists, which in turn brings dollars. This can only help my home town. Our town has been in a decline so tourism may be the boost that it needs.

In closing, I want to point out that I have been a member of the Wildlife Federation since I was 15 years old. I am now 43 years old, and I did not renew my membership this year. I feel the Wildlife Federation is being used for someone's political gain and that if the question was put to the membership, you would find that most members are for this project, not against it. Leave politics out of it. No matter what party is willing to go ahead with this project, I am in favour of it and support it. Remember, this is not a new idea. It has been discussed for many years. I urge you to embark upon this project as it will preserve the future for wildlife in our corner of Saskatchewan.

(Slide show commentary by Jack Twietmeyer)

This is a picture taken in 1969 and that's the proposed site where the Rafferty dam will be built right there, and there is some indication of the water that can come down this system. This is the flood gates at Boundary dam in 1969. This is Beaver Park at Oxbow here during the '69 flood. Another angle on Beaver Park there, the ball diamonds down here and the bridge that crosses to the grid road there at Beaver Park. This is the ball diamonds after some of the floodwater had gone down and ice is laying out there. This is our farm south of town, and it's practically under water. That's where Ted Deyell (ph) lived, or that where you see that power pole is on there. This is the road to Oxbow weir, it's quite a ways in the background there, and that's what happened after the flooded cleaned out the -- it washed out the river at the side of the dam there. Another shot of it. This is 39 highway where it crosses the Souris River in the valley there. That's Moose Creek at 18 highway crossing. That's the railroad crossing on Moose Creek just, that's about a mile south of where the Moose Creek dam will be built there. That's another shot of the railroad crossing. The other side of it. That was the '69 flood. This is the '75 flood. That's Oxbow bridge in '75. Another shot of the river there. This is Moose Creek in '75. This is the Oxbow weir in '75. That's a pumpjack that's just on the other side of the weir, there, for the people that are familiar with this area, and another shot of the weir. This is one of the farms along the river. This is down by the railroad crossing at number 9 there. That's the highway bridge on number 9. This is the flood in '76. That's the Alameda, or the Glen Ewen crossing south of Glen Ewen there. This is a farm, the Macfarlane farm down south of Glen Ewen and the Macfarlane, the bridge at the Macfarlane farm. This is the Harvey Wood's farm in '76. I have a couple of shots here of -- oh, this is '79, right, this, there was another flood in '79, it's showing some of the devastation it can do there. That's the ball diamonds in '79 at Beaver Park and Beaver Park in the background.

Now I have a series of shots here, that's of the Harvey Wood farm in 1969, and the same shot in 1975, and that's in 1976, and that's in 1979. Now if anybody doesn't think that we get water down this valley, ask Harvey Wood.

MR. MILLARD: Is it possible to get a copy of the slides?

JACK TWIETMEYER: Yes, it is.

MR. MILLARD: We could arrange it afterwards.

JACK TWIETMEYER: Sure.

MR. MILLARD: Thank you. Bonnie Morrow?

BONNIE MORROW: Mr. Millard, Mr. Burns, ladies and gentlemen, in looking at this agenda for this evening, I really don't know where us women stand. I see we are right at the very bottom. I thought maybe you saved the best until last.

MR. MILLARD: Actually, I think it was a woman who drew it up.

BONNIE MORROW: That's what I understand. Maybe she saved the best for last.

SUSIE WASHINGTON: First come, first served.

BONNIE MORROW: My name is Bonnie Morrow, and I am a lifelong citizen of Oxbow. I am a bookkeeper for the local trucking company and I have served as a trustee on the Oxbow Local School Board for ten years, I am a member of the Oxbow Housing Authority, I am a housewife and a mother, and I care for six children every day.

I am very concerned about the possibility of having no good drinking water in the very near future. I see the Alameda dam as mainly a reservoir. I have few facts or figures in my brief, only what I feel. Since I was a small child, I have heard about the possibility of making a dam on the Moose Mountain Creek. Now in this day and age, when water is so rare in the nearby towns, I feel we must preserve what we have.

Starting as early as last year, Oxbow citizens were asked to use their water supply with discretion because our well was going down inches at a time. Our water wells are located on the banks of the Souris River south of our town, and there was not enough water left in the river to keep the water level up in our wells. If our town had no water for human consumption, our entire town would be at a loss. It would be extremely difficult to run our hospital, the cleaning, bathing and making meals for the patients would be very difficult after having water run from every tap. If our water supply was to be shut off to our schools, they would have to be closed for sanitary reasons and the children's education would suffer for the lack of water. Many businesses in our town would suffer. It is hard to cook and clean without water, something that many men do not realize. It has become a way of our lives to go to the tap, and right now we have good, clean drinking water. Some older people have said to me "yes, but we didn't have running water when I was younger and I survived". I have to say to them, well, they can go back to hauling water. I also remember hauling water, pail by pail, and I am glad for my taps, and my indoor washroom, less flies in my back yard, and no longer a need for outhouses. Our forefathers did not work all their lives to make the world a little better and easier for themselves and their young families to see it all take a turnaround and go backwards. I do not understand people who would not want to save such a precious commodity as water.

In the winter months when it is 40 degrees below celsius there is such a great demand for power we have to buy it from other provinces, cutting into their supply. In a few years it may be necessary to build another power plant to supply extra power for ourselves and maybe have enough to help the other provinces as they have helped us when it was necessary. This would even bring more people to our community, which we need very much. Our town is slowly dying because all of the young people must move away to find jobs. I am well aware of the length of time it would take to fill the dam, but water does draw water.

I keep hearing and reading about all this wonderful land being wasted. Well my thoughts on that point are some of these pastures have been so dry for the past few years that farmers cannot leave their cattle or horses there for any length of time because there is not enough water. It is all dried up much sooner than it did even five years ago, and we let it all run away in the spring, there is nothing left for the cattle or even the wildlife.

I have a hard time justifying how the people in the cities of Regina, Saskatoon, Winnipeg, and even as far away as Ottawa can tell me that we are wasting good land when every day, winter and summer, more homes and businesses are being built in these cities swallowing up acres and acres of prime, top-quality farmland with excellent soil. No one says anything. People in the cities cut down trees to put up parking lots and they are telling us what to do, lifelong members of this community? They should realize what a great commodity good water is, especially Regina. They want us to continue to let it go down the creek and river to flood out Minot and everyone else along the river bank. It seems to me we would be making some very wise decisions, preserving water for the future, and perhaps to be used for power and also helping with flood control.

The creek has changed a lot over the years. As a child I spent many hours with my father admiring nature along the banks of the river and creek. There was a lot of wildlife to see. But now, when I take my children, there is very little. The animals go where they know the water level is reliable, because by the middle of July every year there is no water left in the creek, only the odd spot, not even enough for much wildlife. If the water was dammed up, the wildlife would soon come to rely on it here in our own community, and they would stay.

I also remember my father being able to catch some pretty nice fish in the river when I was a child, but now it is almost impossible, because by the time fishing season opens all the water is gone and nothing but dead fish are laying around because there wasn't enough water for them to swim in. It was a really sad looking mess this spring, and still is. We could have some great fishing if there was a place for the fish to live.

If our forefathers had not had the foresight to do some adventuring and look to the future, we would not even be here. Maybe some of us would be living in some other countries where there is no good water of any kind within hundreds of miles.

I am very sorry that the Rafferty-Alameda dam project has become such a political battle. I feel that the federal government really does not care about the water shortage in southern Saskatchewan for the small towns and the farmers. We are only numbers, and very few at that.

In closing I would like to say tomorrow does depend on what we do today. For myself and my children and their children we must protect and save what is being given to us today and use it wisely. Try as we might, we will never be able to invent good water and air. We humans cannot live without them. Thank you.

MR. MILLARD: Thank you. Marj Nyeste?

Marj Nyeste
Oxbow, Saskatchewan
Friday, June 23rd, 1989

MARJ NYESTE: Mr. Chairman, ladies and gentlemen, good evening. My name is Marj Nyeste, and I have lived in Oxbow and the surrounding district all my life.

I am here tonight to make certain that the committee is aware of the benefits of the Rafferty-Alameda project and to add my voice to those that support this project. Surveys have clearly shown that the majority of the residents of southeast Saskatchewan are in favour of this project. I believe it is time to stop our bickering and get on with a project that should have been completed many years ago. In making this presentation, my major concern is the provision of a quality lifestyle for myself and the other residents of the southeastern area of the Province of Saskatchewan.

In the last few years we have been surrounded by desert-like conditions, and the provision and the control of our water supplies must be placed as one of major importance. Several of our towns and villages as well as the City of Regina are practicing water rationing. I believe that the emphasis we must consider when discussing the Rafferty-Alameda project is that of human life. To me, human life and the quality of that life should be of utmost importance.

A close friend of my family, Paul Bjorndahl (ph) was drowned in a boating incident during the spring flood of 1969. On another occasion, friends of mine came close to losing their lives because of flooding when a bridge washed out on the Moose Mountain Creek. I, as well as everyone else, have witnessed the destruction and the damage that has occurred because of flood conditions in this area. I have seen families who have had to move out of their homes because of the floods. I have seen homes literally afloat because of these floods.

Stream flow records for the Souris River show large seasonal variations in flow values. In dry years, little or no flooding has occurred. In wet years, extreme flood conditions exist and result in major crop and property damage. After the spring flood, zero flow conditions are reported during a dry summer. Management of this erratic water supply is a must. Water in southeastern Saskatchewan is scarce, and what water there is varies widely in its flow from season to season, and at present there is no ability to manage these flows.

Since homesteading began in the Souris River basin water flood conditions have existed and water control structures have been discussed and proposals have been made. Studies have always identified a strong support for some type of water storage and control structures. Finally, in the 1980's, a definite plan was developed and construction was started. The Rafferty-Alameda dam project is long overdue and we must see this project through to its completion at the earliest possible date.

The value of water storage and the major objective of the Rafferty-Alameda project is summarized by the statement of the Province of Manitoba to the International Joint Commission in 1940, and I quote:

> "It will be evident that to make use of the Souris River water storage is essential. In years of abnormal runoff, particularly the high water years, there is plenty of water for all purposes in both the United States and Canada provided the facilities are available to store water in the spring to carry over the balance of the year. In years of low flow, however, there is insufficient flow for any purpose in either country. The only solution, then, is to provide storage reservoirs to carry over from year to year and make use of the floods which would otherwise run to waste, and it would appear that in consideration of any division of the boundary waters of the Souris River storage should be considered and that instead of considering any daily or even yearly division of the stream, the period considered should be of sufficient duration to facilitate a swap of waters from time to time so as to make the best

> possible use of the high floods which occur by using the storage capacity available."

End of quote. This statement is as valid today as it was in 1940. The benefits of the Rafferty-Alameda project far outweigh any negative effects.

Some of these benefits are as follows: The Rafferty dam and reservoir will allow greatly-enhanced recreation opportunities for southeast Saskatchewan through the development of park facilities, cottages, and additional water-based recreation; the reservoir will provide cooling water for the Shand thermal electric generating station; the Rafferty reservoir will provide enhanced wildlife development potential for fish and waterfowl species; the reservoir will provide water for irrigation in the Souris valley; and will also provide considerable flood protection for communities downstream.

The Alameda dam and reservoir will provide recreation benefits for southeastern Saskatchewan; the potential to develop a park and resort area will be provided; the reservoir can be used to provide irrigation to the surrounding agricultural land.

The Rafferty and Alameda reservoirs will diversify the region in terms of wildlife, waterfowl, and sport fish habitat. Sport fishing, waterfowl and wildlife development projects could become a reality. The creation of these water storage facilities can only improve the living conditions of our wildlife.

The reservoirs will also create much-needed water-based recreation opportunities. Tourism, cottage development, and other water-related activities will help to diversify the economy. The southeast corner of Saskatchewan will be greatly improved for residents and visitors alike.

In conclusion, in years of flooding, the scenario has been to watch all the water pass us by, leaving paths of destruction in its wake while we retain nothing. Proper water control and management will put an end to this. The Rafferty-Alameda dam project is a must. Overall, I must stress that our human life is equally as important as wildlife. Let's get on with it. Thank you very much.

MR. MILLARD: Thank you. Anne Staples?

ANNE STAPLES: Mr. Chairman, Mr. Burns, ladies and gentlemen, my name is Anne Staples. My husband and I operate a mixed farm in the north Glen Ewen district, and we have lived here all our lives.

Water is the most common substance on earth. Throughout history, water has been man's slave and his master. Great civilizations have risen when water supplies were plentiful, they have fallen when these supplies have failed.

Two of the main waterways of our area are the Souris River and the Moose Mountain Creek. They are typical prairie streams in that they are relatively small and are fed by spring runoff and precipitation. The Souris River system is in terrible condition and needs to be cleaned up so that we can make better use of the water available.

The people of Saskatchewan are entitled to 50 percent of the flow from our waterways, but we are only able to retain 15 percent. If the Rafferty-Alameda dams are completed, we would be able to retain our share, plus provide the 50 percent going to the United States when they want it, and in so doing provide flood control.

The Shand power project is to be completed by 1991. The station needs a water supply for its cooling system or it will not be able to operate. Without the Shand system, Saskatchewan will have to purchase electricity from outside the province. At present, Saskatchewan has an arrangement with Manitoba to provide each other with backup power in the event of an emergency. Without Shand, there would be the possibility of no backup system, a situation that can cost lives.

Our urban centers in this area are at a zero growth rate because of a shortage of water. The possibility is there that our children may have to live in other areas because there is not enough water to sustain our future population.

We have a dam on our property that was built in 1949. There is an abundance of wildlife using the two miles of water; white-tailed deer, rabbits, coyotes, beaver and muskrats, ducks, geese, cormorants, pelicans, swans. Many of the birds are nesting there.

The water is being used by cattle and for humans by being pumped or hauled to dugouts. It has been very essential, especially during the last few years of drought and low water table. Many farmers have been using this water. The time is right for Rafferty-Alameda project. Let's get it back on track. Thank you.

MR. MILLARD: Thank you. Betty Pagg?

BETTY PAGG: Good evening Mr. Chairman, Mr. Burns, ladies and gentlemen; I am a retired farmer's wife and the recent widow of Bob Pagg of Oxbow who died suddenly after reading a letter he had written to the editor of the Oxbow Herald regarding the dams.

Bob was a staunch supporter of the Alameda-Rafferty dam project. Having been born in Oxbow and farmed and ranched in the Pallisten (ph) district north of Oxbow for 30 years, and retiring to Beaver Park to live on the Souris River, he knew how important it to be. I, myself, have lived in the Oxbow district for 45 years, and have taken an active part in the community, serving 12 years as a board member of the Oxbow Union Hospital representing both of the R.M. Enniskillen and the R.M. Moose Creek. Five of those years I represented the hospitals in southeastern Saskatchewan on the board of directors of the SHA, so I care greatly what happens in this part of the province and the future of its residents.

Both Bob and I have been conservationists and nature-loving people, proof of which those people who visit our home would attest to, and have been real concerned regarding the stoppage of building of these dams not only because we choose to live on the Souris River and have seen the floods and the damage it can do -- and I saw our place there in those pictures of Jack's -- and see all that water go to waste, water that is so important to our future lives and that of generationas to come, having raised cattle and Bob having been an ex-prisoner of war for 2 1/2 years, knew only too well, like many of us, what it was like not to have food and water and how important it is.

Therefore this spring, when he learned the involvement of the Canadian Wildlife Association in the conflict he was very upset. As we had been supporters of this organization for many years it was like being betrayed by an old friend and he wrote and told them his feelings.

The other thing that bothered us greatly was when we saw the issue become a political football. This is no time for political differences. We, as people of southeast Saskatchewan, should be working together, looking toward the future, and seeing to it that proper management of our water resources takes place.

You have all read the many letters pro and con to the editor regarding these dams. Bob decided he, too, had something to say, as he has been very much a part of the Souris River and knew it well, his parents having bought a cottage at Beaver Park in 1919 when he was three years old, and to this day is still being used and enjoyed the family. He laboured over this letter. As you know, it is sometimes difficult to put into writing your thoughts, but finished it late that Friday night and took the following letter over to Alameda the following morning. It reads:

Marj Nyeste
Oxbow, Saskatchewan
Friday, June 23rd, 1989

"To the editor. Considering the large flow of words put to print considering the Rafferty-Alameda projects there would seem little left unsaid. However, with the present situation, I wish to make some comments. It is apparent the stopping of this project was brought about by a small group of would-be-known citizens who, by extortion of facts and grasping for any near-plausible reasons, saw that an ally was to be found in the presence of the Canadian Wildlife Federation, which would be thought to be least expected and unwarranted. To quote their editorial creed 'to create and encourage an awareness among the people of the world of the need for wise use and proper management of those resources of the earth upon which our lives and welfare depend, the soil, the air, the water, the forests, the minerals, the plant life, and the wildlife.' Little do the creatures of the world know where their priorities truly rest. It is a few years past 100 or so since the first people came to this area, many bringing little but their will. Being innovators by necessity, they structured a shelter from the natural sod and carried on a near-continuous search for water by the endless digging of wells or placing some dirt across the coulee. These were times of excess flow, but often more truth than fiction was saving the dish water to pour on the sweet peas. The water table continues to lessen, which fact is well known to most. In the region known as the great plains we find three major reservoirs which cover hundreds of square miles of water and spread over several thousand miles of shoreland. These could be considered in the relative sense as inland seas. To the south in North Dakota Lake Sakakawea, Garrison dam, takes up 1,600 miles of shoreline and puts under water hundreds of acres of bottom land affecting many people. Three villages and towns disappeared. However, some agreement was reached to preserve harmony in the forming of the very, if literal-named community, of New Town. At Fort Peck dam in Montana, also on the muddy Missouri, which is known as being too thin to plow and too thick to drink, is a vast reservoir. Probably more well known is Diefenbaker Lake created by Gardiner dam, which also conserves many square miles of water. Besides the power generated these waters offer recreation to many and also habitat for a large variety of wildlife, ducks, shore birds, pelicans, etcetera, who can display their pleasure by merely having a place to be. The fishing in the lake at Garrison dam vies with and in instances surpasses catches taken at some of the northern lakes. Having swam in these waters, I can say they remain clear after a period of years, and the last-named lake, Diefenbaker, also very cold. A visit to any with their several parks is a pleasure. These dams were deemed ofimportance and carried out without the present nonsensical publicity given to our meagre streams, but the grave global concern of acid rain, the greenhouse effect, the assumed impact on the environment of these small projects must indeed be a unique situation. Regarding the generous public hearings that were held and claimed by some to be lacking in scope I might say to my knowledge they were conducted in a most forthright manner by men who each, in their various fields, offered open and first-hand information that is worthy of praise. Concerned people from Toronto, Ottawa or wherever else would have been welcome. As others having seen periods when the boys were riding bicycles and shooting golf balls in the riverbed, and also times when water was entering one door in certain dwellings and going out

> the other, I think that the suggestion of requiring further review on water that does not as yet exist can be nothing other than fruitless and endless. Signed Robert S. Pagg, April the 22nd".

And I would just like to add a note. Many people, this last month, have wondered about our feelings regarding the mention of the dams. You can be sure my family and I believe when a man dies, so to speak, for something he truly believes in, he hasn't died in vain. Thank you.

MR. MILLARD: Thank you. Well, ladies and gentlemen, that completes the list for this evening. We have some time for questions of the Environment Canada scientists if you have any. Are there any questions?

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John Len
Estevan, Saskatchewan
Saturday a.m., June 24th, 1989

Transcript of Proceedings

(Meeting commenced at 9:30 a.m., Saturday, June 24th, 1989)

(Opening comments by Mr. Millard and Mr. Burns not transcribed)

MR. MILLARD: Thanks Bev. I think we are now ready to start the submissions this morning. The first submission is by John Len.

JOHN LEN: Thank you. Good morning board members, ladies and gentlemen. My name is John Len, and I am the superintendent at Woodlawn Regional Park. The objective in making my presentation is to draw attention to three key areas in respect to the Woodlawn Park, which will be immediately enhanced as a result of the proposed construction and completion of the Rafferty dam project. The three main areas that this brief will address are; first, improved water quality and supply; flood protection; recreational opportunities.

Dealing with the water supply and quality, the park's present water supply and quality is highly unpredictable due to the variability of flow in the Souris River. In early spring the runoff water in this part of the Souris River often overflows its banks, carrying with it water that contains many impurities. Similarly, in early and late summer, due to the low level the river water becomes stagnant, filled with algae, and often contains a strong odour and taste.

The proposed construction of the Rafferty dam project will, without a doubt, alleviate the park's constant problem in attempting to provide the public with a regular supply of good quality water in the face of great variations in flow levels during any one given year. You have flood and then a mere le.In addition, water is needed for cooling of theShand generating station which I think the Mayorwill be addressing in his brief. The water will be carried from the Rafferty dam by means of a pipeline.

This pipeline will also be used to convey sewage effluent from the city's sewage lagoons. The sewage effluent is released in early spring or late fall by means of an open channel system. That's what they do now. Under the present operating conditions, there may be lingering odours or residues that may be noticeable to people who frequently use the park. The power corporation's use of the effluent will ensure that the park and downstream users will no longer have to cope with such unpleasantness.

The second point is, flood protection. Another major effect of the completion of the Rafferty dam project will result in flood control and protection for the park. The proposed construction of a diversion channel connecting the existing Boundary dam reservoir with the Rafferty reservoir will provide the opportunity to reduce the flood peaks in the park area. These flood peaks occur as a result of uncontrolled flows from downstream on the Souris River and from Long Creek. Flood control will enhance the recreational opportunities and wildlife habitat areas within the park.

The recreation opportunities. The Rafferty dam and reservoir will provide the potential for a greatly enhanced recreation development within the park area. Our camping, picnic facilities, together with the increased demands for additional ball diamonds and soccer fields, will be enlarged and expanded. The increase in volume of usable water would not only assist us in regards to irrigation -- now what happens, Mr. Chairman, we use the water for irrigation, a lot of the trees and the grass die because of the contaminated water that we have to use. For drinking purposes, we use the City water supply.

Thank you board members, thank you ladies and gentlemen for giving me the opportunity to present this brief on behalf of the Woodlawn Regional Park Authority. I thank you.

Don Hovdebo
Estevan, Saskatchewan
Saturday a.m., June 24th, 1989

MR. MILLARD: Thank you. Next presenter is Bill Owens. Is Bill Owens present? Don Hovdebo.

DON HOVDEBO: In opening, let me first thank you for allowing me the opportunity to address this body and congratulate Environment Canada on the obvious care that has been taken in preparing the Rafferty-Alameda project initial environmental evaluation.

CBT Labs, which I represent, is a Saskatoon biological lab primarily concerned with environmental analysis and research, and more particularly water quality analyses in the preparation of environmental impact assessments. As such, you can understand our interest in the proceedings of both the Souris Basin Development Authority EIS, and the one more recently by Environment Canada.

I am of the firm belief that the environmental impact assessment process is the most effective tool that we, as a society, have to ensure a clean, safe, and productive environment. With this in mind, I am very encouraged to see that the federal department is undertaking what appears to be an extensive and detailed investigation of this project and the areas of it that come under federal responsibility.

In the spring of 1988, while reviewing the Souris Basin Development Authority's environmental impact assessment, I had concerns about the hydrological data from 1974 to 1981, and the lack of data for the years following. In your studies, you have listed this as under significant deficiencies. In the preparation of the final draft I would urge you to include this data, and include it in subsequent estimates and projections.

This was just one of the concerns that I originally had with the findings of the Souris Basin Development Authority's original assessment. Many of the concerns have been adequately addressed by the contents of your study, but there are still a few areas that I feel should be included in the final draft. Many of the citizens in this country, and in fact within the province, have succumbed to the myth of the super-abundance of fresh water in Canada. I must emphasize the word myth because that's exactly what it is. I am sure that I don't have to convince the people in the Estevan area that there is not a super-abundance of usable water. Although Canada may have roughly 9 percent of the fresh water reserves on the planet, much of it is geographically available, or is only available at times of the year when it cannot efficiently be used. Water in semi-arid southern Saskatchewan is a precious commodity, and must be treated as such.

With this in mind, I feel there is a vital need to develop a sound water management strategy in Saskatchewan, and indeed across Canada. Nowhere is this more aptly illustrated than in the area of the proposed Rafferty-Alameda project. This is why I must question whether the federal study and the one completed by the Souris Basin Development Authority have addressed the question as to whether or not this project is the most effective way of managing this very precious resource.

I realize, during the course of the original study of the Souris basin, that some 20 different strategies were investigated with regards to water management. Did these investigations include the exploring of what other countries are doing with respect to water management? Israel, as one example, has some of the most advanced programs in the world of water management in semi-arid and arid climatic conditions. I myself have seen a project on the edge of the Sahara in Nigeria, West Africa that very effectively controls a flooding river and stores the water for use during times of low precipitation. The point is, and it must be addressed, whether or not this project is the most effective water management study that can be designed for the area, and does it fit with the national water management strategies for the future, a strategy that must benefit all the users, industry, agriculture, domestic, and all the way down to the wildlife. Because of the trans-boundary nature of the Souris basin, the responsibility is shared between the Federal and Provincial Goverments. Both must agree that this project is what is required. Decisions that are made on both levels of government will have an effect a long time after the individuals that have made such decisions are gone. I would urge you to consider a long-term water management strategy, and whether this project can and will be part of such a strategy.

The Initial Environmental Evaluation prepared by Environment Canada is one of the best investigations in the primary environmental effect of a project that I have seen in recent times. It addresses those areas of federal responsibility, and investigates the primary environmental effects that the proposal will have. It does fall short in one area that I think cannot be overlooked, the area of secondary and tertiary environmental effects.

I am sure that most of the people in the province will be quick to admit that the environment is a subtly and well-balanced system of actions and interactions. It is for this reason that I feel the secondary environmental effects must be investigated when performing an environmental impact assessment. Two of the areas where this is very well illustrated is in the projected increase in mercury levels in the reservoir, and the increased bacterial levels that are predicted in the Manitoba reaches of the Souris River during the spring and the fall.

It has been established that increased levels of the heavy metal mercury can be expected in the Rafferty and Alameda reservoirs. Biomagnification of such heavy metals results in the increased concentrations in the animals at higher trophic levels. This problem has been addressed for fish in the draft report, however the effect of elevated level has not been addressed for the secondary consumers, consumers such as fish-eating birds, the minnow-eating birds, and the invertebrate feeders.

Increased levels of bacteria in the Manitoba reaches of the Souris has also been predicted for spring and fall periods. This is well documented in the study, however nothing is stated about the effects that such levels will have on migratory birds. The Souris is on the migration corridor of many species of birds, and elevated bacterial levels will be expected at the time of peak migration. The consequences of these elevated bacterial levels could be very detrimental to these birds, as there does appear to be a direct link between bacterial concentrations and the avian botulism, the number of cases of avian botulism. In both of these cases, the secondary environmental effects of the project have not been taken into account. In the final draft of the environmental evaluation, I would urge that you investigate the secondary environmental effects of the project, and document them. Secondary environmental effects are a very important consideration when making an environmental impact assessment valid.

The last and most important point that I would like to bring up pertains to something that is not included in either of the environmental studies. When the final draft is prepared, it must include the recommendation that there be established a framework for the creation of an ongoing environmental auditing process. By this I mean that if the Minister is going to re-issue the licence for the project under the International River Improvements Act, he must do so under the condition that the Souris Basin Development Authority establish an ongoing environmental auditing process.

Such a process would work in the following manner. The project, once it has received approval for development, would be required to submit intermittent reports on the validity of the original Environmental Impact Statement. In areas of environmental damage that were not anticipated in the original EIS the proponent would be required to submit a supplemental, which would outline appropriate mitigative measures. Any type of proposed expansion or deviation or decommissioning would also be addressed in these updates.

In the case of the Rafferty-Alameda project, the auditing process would involve an annual update that would include the results of a twice-yearly series of water quality tests from both of the reservoirs and from the Souris River at Glen Ewen, Saskatchewan and Coulter, Manitoba. It would also closely monitor mercury levels not only in the water, but also in the tissues of fish populations and invertebrates within the project area. Each of the areas covered in the original EIS would be briefly investigated and reported on. The completed update would then be submitted to both provincial and federal environment ministers.

Such an auditing process would not only benefit in the protection of the environment, but would also provide valuable data for future developments. The suggested experiment into the effects of organic matter decomposition and its effects on mercury, page 8-33 in the draft report, could very easily be incorporated into this auditing process. This type of project, program, would be valuable to scientists, environmentalists, wildlife management personnel, and untold numbers of other groups. For this reason I must urge the inclusion of an environmental auditing program into the recommendations made to the Minister.

In conclusion, I must again congratulate you on the preparation of what by and large is a well-documented and scientifically-sound document. Canada and Saskatchewan can and must lead the way in developing sound and economically viable projects that can manage and protect our waters, but which also place the environment at a level equal to all other considerations. Thank you.

MR. MILLARD: Which page number was that that you referred to?

DON HOVDEBO: It's 8-33.

MR. MILLARD: 8-33? Thank you very much. Guy Chicoine?

GUY CHICOINE: Mr. Moderator, Mr. Burns, ladies and gentlemen; my name is Guy Chicoine and I am here as representative for Estevan Brick and the Estevan Brick Wildlife Association.

Estevan Brick and its predecessors have operated a brick plant in Estevan since the early 1900's. The current management, which has been in place for more than 17 years, is very concerned about the future of this community and the environment as it affects the human and wildlife population in and around our community. Because of this, we fully support the Rafferty-Alameda project.

Having been a part of this community for all these years, we have firsthand knowledge of the negative effects of drought and flood on the environment. We believe that without Rafferty-Alameda, this situation will never improve. Also, should we have to face another drought situation like the 1930's without a large reservoir of water, the effects on human and wildlife populations in this area would be disastrous.

We, of course, also have concerns about our neighbours and friends downstream on both sides of the Canada-U.S. Border. Not only will the project mitigate damage in times of drought, but the flood control will present downstream ecological damage and erosion. The downstream water quality, because of the regulated flow, will improve and not be reduced as some people think. This is another reason we want the flood controls which Rafferty-Alameda will provide.

The organization which I represent has a proud history of promotion and respect for nature and wildlife. Estevan Brick sponsored and financed the creation of a wildlife sanctuary which is located adjacent to the Estevan Brick plant in the southeast corner of Estevan. The corporation and its management was instrumental in creating the Estevan Brick Wildlife Association who now operate this sanctuary. This association currently has 650 members. Its purpose is to maintain and improve the wildlife sanctuary for the benefit of its inhabitants, the numerous species of birds and animals and, of course, the people of this community, especially the children. The sanctuary currently houses in excess of 300 birds and animals consisting of 28 different species. Prior to the establishment of this sanctuary, with its controlled water levels and feeding areas, it was very unusual to see a flock of Canada geese in Estevan except in early spring and late fall. However, because of our sanctuary and the existence of the Boundary dam reservoir, this is now a daily occurrence in the City as a large number of our Canada geese have made Estevan their permanent home. This is just a small example of what can be done to support wildlife in this area, and it is very exciting to think of the potential Rafferty-Alameda will create. The management of Estevan Brick, and the Executive of the Estevan Brick Wildlife Association, invite the members of the panel to view the wildlife sanctuary while in Estevan.

Remember, life itself cannot exist without water. Water management will improve the quality of our life in our community. It will also increase the habitat for our wildlife. This is a project that has been supported by all of the major political parties over the past 50 years. It is time to put aside petty political aspirations and to complete this much-needed project without delay. Both Estevan Brick and the Estevan Brick Wildlife Association respectfully request that you allow this project to proceed. Thank you.

MR. MILLARD: Thank you.

MR. BURNS: Before we go any further, I notice a lot of you have written or typed material that you are reading from. We are quite prepared to accept that up here, if you are prepared to leave that with us.

GUY CHICOINE: I'll make you a copy.

MR. BURNS: Okay.

MR. MILLARD: Frank John. Not present? Mardy Krueger?

MARDY KRUEGER: Good morning members of the board, members of the public and friends of Rafferty dam. I received a phone call this morning and I am presenting, on behalf of the Honourable Alvin Hamilton, a brief note in support of Rafferty dam, and I quote:

> "Ever since Palliser crossed the western prairies and said that we live in a desert in southern Saskatchewan every scientist has recommended, since then, that we store water in every place possible. The subject of the Rafferty dam proposals has been before the Provincial Government since 1905. It was reviewed and recosted by the PFRA in the early '60's. It was fitted in with the overall plans for the Saskatchewan-Nelson River system and the Souris-Red River system. It is strongly supported by the farmers of North Dakota and the residents of Minot, North Dakota as flood protection. The International Boundaries Agreement of 1909 is an agreement on the water crossing the coterminous Canada-U.S. boundary. The International Joint Commission has studied and approved of this operation on the Souris River. The building of the Saskatchewan dam was part of a long-range program by the PFRA to make the best use of two river systems flowing into Hudson Bay. That is why there is a dam at the headwaters of the Qu'Appelle River to supply the Qu'Appelle River, which flows eastward across Saskatchewan, into the Assiniboine and Red River system. This same dam has all the plans ready to provide the same service for the Souris River. These plans are available through PFRA in Regina, and in plain Saskatchewan terms, any person knows that a desert has to have storage places for water. Not only will it provide an improvement for the wildlife and the environment, it will provide the opportunity for industry to use that water, to purify it, and to put it back into the river system. Anyone who condemns or impedes the proper use and management of water in a desert should have his or her head

examined. The Honourable Alvin Hamilton."

MR. MILLARD: Thank you.

MARDY KRUEGER: Thank you.

MR. MILLARD: Royce Reichert?

ROYCE REICHERT: Good morning board members, ladies and gentlemen; my name is Royce Reichert, and I have to commend you on pronouncing the last name right, and the writing did the others. I know you hear about the ones that you don't do right.

MR. MILLARD: Thank you.

ROYCE REICHERT: My purpose in addressing this group is as an advocate of sound water resource management.

I run an oilfield service business in Estevan and the southeast Saskatchewan which, while it has given me a thorough appreciation of local economic issues, does not have any direct link to the Rafferty-Alameda project. In endorsing the project, in urging that construction be allowed to recommence, I have no vested or direct commercial interest. I do, however, have a deep personal commitment to doing what I can to ensure the health of my employees and the people of the area and the well-being of this part of the province.

As the Past President of the Saskatchewan Chamber of Commerce, I believe I can speak with some confidence on the nature of our requirements for short and long-term economic capacity. In a word, we need water. This is a drought-prone arid area in which local producers' capacity to compete is continually constrained by the unavailability and absence of water. This area's economy is agriculturally based, augmented by activity in the oil and gas industry. Both sectors have suffered in recent years, with a net loss of local income and employment. Rafferty-Alameda represents a return to confidence. We have been losing people and we are faced with fewer people to meet the needs of municipal services, particularly during their peak earning years, to pay taxes to keep our communities functioning. In the current scenario our tax base, our commercial sector, and our service capacities are at risk.

In my judgment, the Rafferty-Alameda project can trigger the optimism we need, we require to strengthen the economic structure of this corner of the province. Not only does it hold potential to diversify and stabilize agricultural units, but the reservoirs represent new development in recreation and tourism. I see strong potential for new business in the hospitality and service sectors.

I am fully aware of the environmental mitigation and compensation strategy developed for the project. It should be recognized as one of the most forward-thinking, comprehensive packages ever developed for an initiative of this nature. I do not believe that this project conflicts with our desire to preserve and protect the environment. Certainly, as a resident, I have every desire to ensure that the project is not destructive, and I am confident that it is not. I believe that it will enhance our ability to protect and preserve our quality of life, our livelihood, and our environment. Thank you.

MR. MILLARD: Thank you. Jack Fingler?

JACK FINGLER: Good morning. My name is Jack Fingler, and I am the President of the Estevan Chamber of Commerce. I am also the owner of an insurance agency in this City. I represent the Estevan Chamber of Commerce, which represents the business and professional community of this City.

Jack Fingler
Estevan, Saskatchewan
Saturday a.m., June 24th, 1989

As a group, we support the Rafferty-Alameda dams because of the water management potential that will be possible with the creation of these dams and reservoirs, and because of the opportunity for the new growth and development not only for southern Saskatchewan, but for the province as a whole through tourism, irrigation, recreation, industrial development, and the obvious secondary spinoff effects which will result in these areas.

Water is an essential part of our lives, and our towns and villages in this part of the North American continent were developed along the main streams of the Souris River because of the availability of water.

These communities, which include Weyburn, Estevan, Oxbow, Minot, Melita, Souris, Wawanesa and many others have continued to grow over the years and today, because of that growth, it is essential that a sound long-range water management plan be in place to assure future development. These communities are not very old, relatively speaking, but during their history of the last hundred years or so it is interesting to note that there have been ongoing and continuous discussions about this river, the water resource it does and can provide, and how best to control and take advantage of that natural water source.

It is a matter of record that this river and how best to harness it has produced virtually endless discussion over the years. Almost every day, at any coffee shop along the river, you can hear discussions about the Souris of one kind or another. People tell stories about the swimming in the river, boating stories, extreme drought, flood, the extremes with this river, stories about fishing and hunting, and in general enjoying the river for its recreational values. We do not feel that by damming this river we are removing any of these benefits and, in fact, in all cases we are enhancing these benefits. It is not the intention to remove the river, but to simply control the flow of this river during high and peak low periods.

Mr. Chairman, people have talked about this river, they have met formally about this river, governments have commissioned studies on this river, the Saskatchewan Government, North Dakota Government, Manitoba Government, both U.S. and Canadian federal governments have examined this river, the river has formed a part of the Nelson Study, itwas the subject of the Souris Basin Study. This study, which lasted 4 1/2 years, examined all the other studies which have gone before, as well as accumulating new data and information based on all the facts available. The Souris Basin Study involved people along the river and included their ideas, concerns, and information.

Mr. Chairman, after all the study and discussion a decision was made to look at developing the Rafferty and Alameda projects. Everyone has known for years, and in fact as early as 1932, that the creation of the reservoirs at this end of the Souris River in the southeastern part of the province was one of the possibilities for good future water management and everybody was waiting for the day that the ultimate decision to proceed would finally be taken. A decision to consider proceeding with these projects was made some time ago. The Souris Basin Development Authority was formed to continue the study making use of all the historic information available and adding new specific information concerning the effects on these people most directly involved. We are assured that the Souris Basin Development Authority has addressed itself to both the positive effects that these projects will have, and to the negative impact that would be experienced by some, taking some pains to open avenues for assuring that these negative effects are compensated for fairly.

Regarding Estevan in particular, we as the business and professional people of the community believe that the adequate plans for good water management, together with an assured supply of water, will produce orderly growth of the economy on which we depend for our livelihood. We know the difficulties of doing business in an economy that is largely agricultural based when adversity strikes that sector. We have had some experience over the years with the impact of grasshoppers infestation, fluctuating world prices, drought on the prairies, and God knows what else, and whom we do business with. It is our belief that the development of these projects will reduce the likelihood of a significant impact as a result of the latter, being drought, which can be far and away the most devastating of all, since without water, all agricultural activity grinds to a standstill.

Also, Mr. Chairman, the City of Estevan has identified the need for an expanded source of water for the City's water supply, which will clearly be made available by the reservoir provided by the Rafferty dam. Not only is it our contention that fresh water will be assured as a water supply, but recreational areas will be developed that, particularly with our proximity to the U.S. Border, will serve to be a substantial tourist attraction providing benefits not only to Estevan but to southeastern Saskatchewan, and indeed, the economy of the province as a whole.

In addition, an assured water supply for the generating station operated by the Saskatchewan Power Corporation at Boundary dam and for the development of the Shand Generating Station, which is currently under construction, are important considerations when judging the needs of the Rafferty dam, Alameda dam projects.

Our local Chamber of Commerce are not experts in international waters, migratory birds, fish, federal landsand rare and endangered species. We do feel, however, that good common sense prevails in that any life, wild or otherwise, does require water. Migratory birds fly over Estevan continually through the spring and fall. Where do we see them stopping? Boundary dam or the Estevan sewage lagoons. The creation of the reservoir at either Rafferty or Alameda is not going to be a flash flood, but it's going to be a slow, gradual accumulation of water during peak periods of flow on the Souris River. The animals and birds, as we see it, will adapt, and in most cases will welcome the availability of water in abundance at these locations. The control of the international waters, as we understand it, is currently controlled by law, and the construction of these dams will certainly take into account the regulatory flow of these waters. As to the impact these dams will have on federal lands, we have been advised and we have no right to dispute, they will be more than adequately compensated for the loss of these lands. Not being an expert in wildlife or any other areas of concern, we feel that good common sense simply states that life is based on the availability of water, and water is precious, therefore the storage of water, in our opinion, cannot be a detriment to any of these species of wildlife using the valley. One has only to look at the existing Boundary dam reservoir, which is not very large, to see the benefits to the waterfowl.

Mr. Chairman, the business and professional community of the City of Estevan, as represented by the Chamber of Commerce, goes on record as being strongly in support of the Rafferty-Alameda projects. We therefore respectfully suggest that the board view, as we do, the magnitude of the positive impact that these projects will have on the area and the province, and that the board of inquiry recommend to the Minister that the projects proceed at the earliest possible opportunity subject to all those assurances.

Mr. Chairman I would like to thank you for allowing our group the opportunity to make our thoughts known. Thank you.

MR. MILLARD: Thank you. That completes the list of presenters for this morning. Are there any questions of the Environment Canada scientists?

MR. BURNS: Maybe, could we have members of our team stand up and introduce themselves and note their affiliation. We will start down front?

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(Meeting commenced at 6:35 p.m., Saturday, June 24th, 1989)

MR. MILLARD: Could we come to order ladies and gentlemen, please? I might say the room is quite large and there are a lot of chairs at the front. Could I suggest that we come forward and sit near the front? I think it would make it a lot easier for everyone to hear what's going on.

Welcome to the Estevan meeting to consider the Rafferty-Alameda project. My name is Vern Millard and I come from Calgary, I have been brought in as an import so that I wouldn't have any direct knowledge of the project and come without any preconceived ideas at all. I have been involved in public meetings for a long time and I have a great deal of respect for them. I think public meetings are the way of really getting representation from people, people who are affected by projects of many kinds, and it's a very necessary part of our society today.

In terms of public meetings, though, we usually find that there are a mixture of views, some support projects, some oppose them, or some want some special conditions and so on, and so it's important to get the views of parties, to get the views, to get participation by the people, and in order to have this as an effective process we really need to ensure that everyone has a full opportunity to express their views, otherwise the whole purpose of the exercise would be frustrated.

We have had meetings, in terms of this particular session, in Regina, and last night in Oxbow, and we carry on later or next week in three towns in Manitoba and in Minot, North Dakota, so when the process is complete there will be a good deal of knowledge as to how people in the area have responded and relate to the particular proposal.

Because we want to make sure that everyone does participate, and I find it really intriguing and reassuring that on a Saturday p.m. evening we would have this many people present, I think that it's a great thing, but we need to have rules to make sure that everyone does have a full opportunity. What I would like to do is run over those rules. They are not very complicated, but they just ensure that the process is effective. First of all, we have to have regard for what we are really discussing, and as you know, the subject matter of this hearing relates to the court order that Bev Burns will be commenting on later that set out certain factors that the Environment Canada had to have regard for, and the issues relate to environmental impacts on six particular areas;

- international waters;
- migratory birds;
- fish;
- federal lands;
- rare and endangered species; and
- navigable waters.

That's the broad subject matter.

The second rule really relates to the presentations themselves, and we have drawn up a schedule which we will be following tonight, and we ask that each of the parties who is making a presentation restrict himself or herself to ten minutes. If, by any chance, the ten minutes isn't sufficient, then the person can file a submission with Environment Canada following the hearings, any time before July 10th, and that submission will have just the same or be given just the same weight and consideration as if the statement was made at any of the meetings. So there is a mechanism for dealing with longer than average presentations, although I must say that in the two sessions that we have had so far, everyone seems to fall well within the ten-minute limit.

The third rule is that we have to have respect for those that are making presentations, and so I would ask you not to interrupt or do anything like that, and I know you won't, in terms of people that are making the presentations. The hearings or the meetings are being recorded so there will be a public record of what people say, and the submissions that are filed following the hearing will be also part of the public record.

We ask you not to smoke in the room. Following the presentations, and I notice there are 27 of them tonight, there will be an opportunity to ask questions of the scientists that prepared the Initial Environmental Evaluation.

At this point in time I would like to ask Bev Burns to comment on the background and the process that we are involved in. Bev is the Director General for Environment Canada in the Western and Northern Region for Conservation and Protection.

MR. BURNS: Well thank you, Vern. Those of you who have attended both previous meetings are going to start getting rather sick of this presentation, but that's the way it goes.

On behalf of Environment Canada and the other participating federal departments or agencies, I would like to welcome you to this public meeting concerning the Rafferty-Alameda project. I'll talk a little bit about what brought us to today, the process Environment Canada has been following, and to some extent, what might happen in the future.

Although I am from Edmonton I was born in Saskatoon, I have lived in several towns and communities in southern Saskatchewan, and I did spend some time on the family homestead near Drake which, as you know, is somewhat north of here but not that far.

How we got here was in February 1988 the Saskatchewan Government made a water management decision for the Souris River basin to go ahead with the Rafferty-Alameda project.

Subsequently, in June of 1988, the federal environment minister of the day issued a licence under the International River Improvements Act.

Then in April of 1989, April 10th to be exact, a Federal Court order redefined the role of the federal government in this project. That court order required that additional environmental evaluation be done under the federal Environmental Assessment and Review process, and that's called the EARP.

Needless to say, there has been considerable controversy and a significant difference of views surrounding this project. In any case, we have been obliged by the court to provide an additional environmental examination of matters relative to federal jurisdiction, and these are international waters, migratory birds, fish, federal lands, rare and endangered species, and navigable waters. I know the last one is a bit questionable, but nonetheless, we are obliged to examine that issue.

In order to commence implementation of that court order, a team of scientists led by Environment Canada prepared a draft Initial Environmental Evaluation which covers the impact of the project on those six matters of federal interest that I just listed. It is not a review of the entire project. Within the time constraints and information available from a variety of sources, we feel it's a comprehensive, even-handed review based on good, thorough and objective science.

In addition, not only did federal scientists work on this review, but as further check, independent experts did as well. The people working on the project were required to be objective, to have demonstrated competence and a proven track record, to be free from any prior involvement in the project itself or to have any recent executive involvement in the federal or provincial bureacracy. We wanted this to ensure complete objectivity and so on. We welcome these independent reviews of what we believed to be good science, and we were pleased when the independent scientists confirmed and strengthened our conclusions. The federal and independent scientists working on this project are not only top quality scientists, they are people who have their own families dependent on the environment, who use the environment as you do and who share your concerns that it be in good shape for today and tomorrow. That's why they are dedicated to making this process work, and as part of this process, we require your contribution.

The draft IEE which we have made available to you is the result of long hours of work by our scientists and the independent experts and, again I repeat, we need your help. We have done our best technical work and we have identified the impacts, mitigation measures and information gaps. Now we are bringing it forward for input from the public.

The Rafferty-Alameda public meeting process provides an opportunity to share current knowledge, to listen further and to address points raised; and we would hope that any concerns that you have would be raised and any information that you have would be presented to us as well, because we really do require your assistance. That's why, after consulting a number of interested parties, we agreed to the process outlined in part to you by Vern. We agreed to have afternoon open houses for information, questions, and discussions with our scientists. We agreed to hold public meetings at which people can express their views on the draft IEE, and particularly to identify any missing factors. And that's very key here. We agreed to structure the meeting so that everyone has a chance to speak and has equal opportunity. People felt the best way to ensure this was to have speakers register in advance, to have one person one brief, one organization one brief, and only one appearance at the public meeting. And lastly, we agreed to accept both written and oral briefs.

There will be, possibly, a slight exception to those particular rules this evening since we have a request from the Muirheads to make a small joint presentation, and we welcome that.

So what happens next? We will listen tonight and at the other public meetings. To ensure we don't miss anything, a transcript is being prepared by a court reporter, that's the gentleman off to my left. We will take those transcripts, the written briefs, the draft IEE and the written submissions, and prepare a technical document that reflects all three. We will also prepare a second volume which compiles your input both from the public meetings and written submissions. We have also asked that Vern Millard submit an independent Moderator's report. All this material will be included in our August 1st submission to the Honourable Lucien Bouchard.

Public help is critical to the wise use of the environment. All of us are accountable. For our part, we have produced a draft IEE. For your part, we encourage you to comment on it either tonight or in writing by July 10th. The documents that go to our Minister will reflect the input.

Collectively we face three fundamental challenges; in the absence of scientific or economic certainty, we must decide to take action on complex problems, we must do the right things to the best that ability and knowledge affords; we must pass the management of the environment test by being judged kindly by future generations; we must constructively focus environmental concern to reduce polarization, misunderstanding and extreme reactions, we must help each other to do the right things through constructive interaction.

After the briefs have been heard, I and the other members of the scientific team who are here will be glad to answer questions for those of you who couldn't attend the open house, and you will notice there are a number of displays that are around the room for your benefit as well.

The other members of the team are as follows, and I would ask those members to stand as they are introduced; Ron Hofer, Inland Waters Directorate, Regina, who will answer questions relating to water quantity; Bill Gummer, Inland Waters Directorate, Regina who will answer questions on water quality, there is Bill back there; Peter Boothroyd, Canadian Wildlife Service, Winnipeg, and he deals with migratory birds, over here; Greg McKinnon, Department of Fisheries and Oceans, Winnipeg, and he will deal with fish and fish habitat; Allan Smith, Canadian Wildlife Service, Saskatoon, he will deal with rare birds and mammals; Dave Donald, Inland Waters Directorate, Regina, he will deal with rare plants; Roger Baldwin, PFRA, Regina will deal with federal lands; Derek Bjonback, Inland Waters Directorate, Regina will deal with International Rivers Improvement Act, navigable waters, and the environmental assessment review process; Bob Halliday, Inland Waters Directorate, Regina will deal with broad policy and process questions, including matters relating to provincial interests; Jean-Guy Zakrevsky will deal with any questions in French; Ron Wallace is our consultant on the technical side, scientific side; Susie Washington and her group are the people who deal with the communications side.

On that note, I'll hand it back to you, Vern.

MR. MILLARD: Thanks Bev. I would now like to ask George Hood of the Souris Basin Development Authority to comment briefly on the proposed project. Is George present?

GEORGE HOOD: Mr. Chairman, Mr. Burns, ladies and gentlemen;

My name is George Hood, I am the Director of Planning and Operations for the Souris Basin Development Authority, and my role tonight is one of describing, in as brief amount of time as I possibly can, the details of the Rafferty-Alameda project, and I will endeavour not to engage in hyperbole, although if some of that ends up in some of my remarks, I'll leave it up to you as to what my position is insofar as this project is concerned.

I think many people that live in this area are aware of the fact that the Souris River floods on an average of two out of every ten years, and in the remaining years there is very little water frequently flowing down the river. Generally, the Souris River experiences high flows during the spring runoff with occasional summer floods. Flows normally diminish to zero or near zero in the fall or in the winter.

The Souris River basin is among the most water-scarce basins in this province. This is evidenced looking at a number of factors. There are fewer farms irrigating in this region of the province, on average some 6 per 1,000, as compared to other areas of the province which average some 20 per 1,000.

As many of you know, there is little water-based recreation here, there are frequent municipal water shortages, and it is indeed a water-scarce region of the province. While it's a water scarce region of the province, when the water does come, it comes in buckets. Major floods have occurred in '69, '75 and '76, as well as 1979 which, in cumulative terms, resulted in millions of dollars of flood damages.

The Souris River is an international river. It starts in Saskatchewan and flows into the United States and ends up back in Canada, this time in the Province of Manitoba. As an international river, it's subject to the terms and conditions of the Boundary Waters Treaty of 1909, and the Interim Order for the Souris River of 1959. What these things mean is that Saskatchewan is legally entitled to retain 50 percent of the flows in the river. On average, Saskatchewan, because of the absence of dams and reservoirs in the river, only stores 15 percent of its entitlement.

In terms of the effects of recent drought, they have been particularly acute in this region of the province. The communities of Redvers, Estevan, Midale, Carnduff, Oxbow, Radville and McTaggart have all implemented emergency measures to deal with the problems of drought. In 1988 alone in the southeastern region, and these are numbers that have been provided by Saskatchewan Water Corporation, there were nearly 3,800 applications for drought assistance. This included a total of 27 urban centers and 31 rural muncipalities, and in 1988 approximately 600 dugouts were pumped, requiring 900 miles of temporary pipeline.

George Hood
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

The project that we are proposing to construct is a multiple-objective project fulfilling objectives in recreation, irrigation, municipal water supplies, wildlife, industrial, and flood control areas.

There are four components to the project; the Rafferty dam and reservoir; the intermittent downstream channelization down from the Rafferty dam down through the City of Estevan to a location on the Souris River close to the Shand Generating Station; the Boundary to Rafferty diversion channel; and the Alameda reservoir.

What I would like to do is I would like to briefly touch on some hydrological considerations, as well as some of the environmental impacts of the project.

As many of you will be familiar with, the Alameda dam was proposed as early as 1907, the Rafferty dam as early as 1932. Dams on the Souris River are not new. Currently there are at least 40 dams in the Souris basin in Saskatchewan, North Dakota, and Manitoba. Of these 40, 21 are operated exclusively for the purposes of wildlife. They are owned and operated by the United States Fish and Wildlife Service. In Saskatchewan, there are ten dams in the Souris basin.

The value of dams has been acknowledged by the International Joint Commission which has looked at the Souris River twice, in 1940 and again in 1959. In 1940 the commission concluded that dams and reservoirs are valuable as a long-range means of regulating flow on this unusually-variable stream. Without this means of conserving water, all these interests would suffer in periods of natural low water flow, and it would not be possible to release water to Manitoba even to the limited extent needed for human consumption and stock watering. This was seen most recently last year in 1988, when the only water that Manitoba received from the Souris River came from dams in North Dakota.

In terms of environmental impacts, water quality currently is very poor. We anticipate that in all likelihood, after Rafferty-Alameda is built, water quality will be suitable for all intended uses, and will be characteristic of other reservoirs on the prairies. Insofar as water quality impacts in North Dakota and Manitoba are concerned, we recently completed a report and concluded that present data doesn't provide any conclusive evidence that on average, flow alterations would cause deteriorated water quality in Manitoba.

Insofar as environmental impacts are concerned, we do not believe that all dams are bad for the environment. As proof of this, we ask the question if that was the case, why would the United States Fish and Wildlife Service have 21 of them in the Souris basin in North Dakota? I also point out that the Rafferty reservoir will only inundate a small portion of the Souris valley, 25 percent, and I might add the least-sensitive part; the Alameda dam only 15 percent of the Moose Mountain Creek valley.

Our mitigation program is comprehensive. We believe it is the largest that has ever been put together for any major water project in Canada as a percentage of any project costs. We have committed ourselves to no net loss of habitat, and this will be achieved through the acquisition of 31 quarter sections of land surrounding the Rafferty reservoir, and 30 quarters around the Alameda reservoir. We have also committed ourselves to no net loss of waterfowl productivity. We can fully mitigate the impacts on community pastures. We have committed ourselves to an ecological reserve downstream of Estevan. As well we have also acknowledged, and this has been acknowledged at the highest level of the Saskatchewan government, that no wetlands will be drained in order to speed the filling of the reservoirs.

I would also make another comment insofar as public consultation is concerned, because there has been a perception out there that somehow this project has been proceeded with in all due haste and insufficient consideration has been given to the views of the public.

The Saskatchewan Minister of Environment and Public Safety ordered an independent Board of Inquiry in 1987 to look at this project. It did so. That independent Board of Inquiry recommended that the project be proceeded with, subject to a number of stringent environmental requirements. As well the proponent, the Souris Basin Development Authority, the organization that I represent, since 1986, has held over 700 meetings with individual land owners and over 150 meetings with interest groups, the public, and municipalities.

I would make a closing remark insofar as this process that we are involved in, that is the Initial Environmental Evaluation by Environment Canada. This is a process that is certainly, insofar as the Souris Basin Development Authority was concerned, we did not anticipate. Having said that, I congratulate Environment Canada with the speed with which they have been able to put the document together, the draft Initial Environmental Evaluation. You may be familiar with the fact that the province has responded to it. There are copies of the document on the table at the back. As well, we have issued a media release, and there are copies of the executive summary available. This document was not produced with an attitude towards confrontation, but rather to ensure that all available data was made available not only to the public, but also to Environment Canada so that an accurate picture of the implications of the Rafferty-Alameda project is available.

And with that, Mr. Moderator, thank you very much.

MR. MILLARD: Thanks, George. We are now in a position where we can deal with the submissions for this evening. The first submission is by Mayor Empey.

MAYOR EMPEY: Thank you very much, Mr. Chairman. Just before I get to our brief, I would like to indicate that the position of the City of Estevan is one of a community that is affected directly by the Souris River and its health, and we believe these projects will stand the test, environmental test, on their own, so we are anxious that our remarks not be construed as political. We think that it goes far beyond political lines. We are certainly not proposing that any projects that are unsound proceed for our own economic benefit alone, we are not environmentally insensitive, but we can't help but ask the question whose environment is it anyway? We think it's largely the environment of the people who live along the Souris River.

Mr. Chairman, if you find this brief somewhat familiar you will be correct, as these facts were brought forward when it was originally presented September 17th, 1987 and those facts haven't changed, and we could perhaps emphasize the need for water control in this portion of the province.

The City of Estevan wholeheartedly supports the concept of the Rafferty project. The City has made numerous presentations over the years, and is pleased with the process presently made towards the completion of the projects.

The Rafferty dam project is not an innovative idea of the 1970's. A conference was held in Estevan February 1932, and we quote excerpts from the article which appeared March 3, 1932 in the Estevan Mercury.

"Representing the governments of Manitoba and Saskatchewan as well as the Cities of Minot and Estevan, delegates of the two-day conference here at the weekend voted unanimously and enthusiastically approval of the plans for the erection of a quarter million dollar dam on the Souris River seven miles west of the town. 'The whole scheme is so logical it's inevitable' said J.H. Kennedy, North Dakota State Engineer and Official Representative of Governor George Schafer (ph) at the parley. 'I am highly in favour of the project and will do everything in my power to assist in bringing it to a successful conclusion.', that statement from Mayor A.J.H. Brotsburg (ph) of Minot.

Mayor Empey
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

I would also like to quote an article that appeared in the Alberta Report dated April 24th, 1989 concerning the stoppage of the Rafferty project, and I quote:

> "CWF Executive Director Kenneth Breinert (ph) was pleased by the ruling, but admitted his group anticipates that few environmental problems will emerge from the expanded studies. He said the CWF had merely been looking for a test case in which to sue the government, and this was the best example, he says." Unquote.

This statement indicates to us that the project has been delayed solely for political reasons, or at best reasons which have to do with the procedure, and not the project.

On May 30th, 1989 the President of the Estevan Wildlife Federation submitted a letter to the Honourable Lucien Bouchard, Minister of the Environment supporting the Rafferty dam project and advising that that group feels the studies done on the Souris basin have been very complete. The Estevan branch of the Wildlife Federation would certainly know whether or not adverse effects would be created.

In the spring of 1989, the conservation officers for the Province of Saskatchewan were issuing press releases concerning the large winter kill of fish in the province, and specifically mentioned the Souris River. We somehow can't help but believe that the Rafferty dam would only increase sport fishing and the health of fish in this area of the province.

Respecting recreational opportunities, there is no doubt that construction of the Rafferty dam and its attendant reservoir will create an unparalleled recreational opportunity in this part of Saskatchewan. Water-based recreation, water skiing, fishing, boating, etcetera, is increasing in popularity, and this proposal will satisfy a large need for this area of the province. Provision for the development of park facilities, cottage sites will be an asset. Every-increasing energy costs of the future will make it desirable to have the facilities as close as possible for the increased leisure time that society has now come to enjoy.

Respecting water supply, at present domestic water supply requirements for this City of Estevan are being met by a directpipeline from Boundary dam, a man-made reservoir.The following are some statistics with respect tothat reservoir. Full, Boundary dam capacity is 561 meters or 60,500 cubic decameters. Level as at June 1, 1981 is 558.3 meters or 45,800 cubic decameters. Without any major precipitation, the elevation by March 30th, 1982 was estimated to be 556.37 meters or 36,400 cubic decameters. By the fall of 1981, Boundary dam reservoir was estimated to be 16 feet below full level, and could have been as low as 26 feet below full level by the spring, 1982. June 1988 the Boundary dam reservoir was at an elevation of 556.3 meters, the lowest level ever recorded. In June 1988 the City of Estevan was required to institute water rationing due to the low levels of water at Boundary dam reservoir. SaskatchewanPower Corporation were pumping water into thereservoir to meet the demands, however the amountspumped are insufficient to meet the City's dailyuse requirements, and the City has the first rightsto the water. In spring of1989 Weyburn was required to ration water due to low water supply levels.

Respecting the Boundary dam diversion channel, the diversion channel proposed is a definite asset to the City as it is further assurance of a supply of portable water for the use of the citizens of this City.

In regard to flood control, there is no question that the most immediate and significant effect of the Rafferty dam proposal for this City would be vastly improved flood control. Rafferty dam would result in the following; the desired level of flood control would be attained; the possibility of agricultural irrigation would be available throughout a large area; recreation opportunities and wildlife habitat areas would be available throughout a larger area; the possibility of new economic opportunities, example: market gardening and food processing, would arise; depending on individual requirements, industrial water needs could be met.

Regarding industrial development, the Estevan Business Development Committee, a committee composed of all members of City Council and a group of interested and concerned businessmen and citizens to promote and encourage the growth and progress of the City of Estevan, has endorsed the Rafferty dam project. Without debating the desirability of major industrialization, large-scale heavy industrial plants of a regional scope would require a water supply, in terms of both quantity and quality, in excess of that which present impoundment systems can provide. Further, it can well be suggested that the industrial growth, as well as the continued success of existing industry, depends on the continued supply of electric power, a large portion of which comes from Boundary dam, not to mention that which will come from the Shand station. This water supply is clearly in jeopardy without an assured supply of water.

The Saskatchewan Power Corporation has been having discussions with the City engineering department requesting permission to use sewage effluent for cooling purposes. This action would result in a great benefit to the City as it would relieve the City from providing additional sewage treatment cells, and the holding period process could be shortened, and the City would be relieved of the need of releasing the effluent into the Souris River, clearly an improvement to downstream water quality.

As a conclusion, notwithstanding the claim that proper procedures were not followed, the City of Estevan is of the view that potential negative impact on wildlife has been addressed in the mitigation process that's already taken place. We further suggest that reasonable mitigation has been guaranteed for those inhabitants who will be displaced as a result of these projects.

In our opinion, the overwhelming evidence favours proceeding with the project for the reasons herein identified, and we urge Environment Canada to complete its review expeditiously in order that this important project be allowed to proceed quickly. Thank you, Mr. Chairman.

MR. MILLARD: Thanks Mr. Empey. Len Gustafson please?

LEN GUSTAFSON, M.P.: Mr. Millard, Mr. Burns, officials and ladies and gentlemen; I must say, if I may be permitted a word on the process, having attended the meeting in Regina and again in Oxbow last evening and today here, that I have been very, very pleased, and I might say very proud of the constituents that bear the name Souris-Moose Mountain, because I think the presentations have been excellent, and I certainly have enjoyed them, and I hope very sincerely, sir, that your visit to this area and the basin will respond in some very positive direction.

If you would permit me one more comment, one of the problems that I have seen from the Ottawa end, if you will, attending the environmental meetings, is that there is a tendency to deal with this project as a test case, and that concerns me. Also, people who have not seen the project, and I made the point in committee sir, that it will not enhance the development in the future of environmental concerns if we proceed in a direction where people are making statements about a project which they have no understanding of, and we would welcome anyone to come and see our Souris basin, and as the project as a whole exists within the constituency of Souris-Moose Mountain I think we certainly speak with concern, and positively support the project.

Before my time in Parliament I served on the Council of the R.M. of Cymri for six years. In 1985 I was Chairman of the Federal-Provincial Task Force on Prairie Drought, and that included Manitoba, Saskatchewan, and Alberta, a committee made up of provincial and federal people. More importantly I have lived in this area all my life, my grandfather came to the farm south of Macoun in

Len Gustafson
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

1909, my father lived there, I have lived there all my life with an exception of going to Ottawa a few times, and my sons now live in that area.

The focus of my remarks today is to try to put the Initial Environmental Evaluations into proper perspective. The specific question before this public meeting is whether or not the environmental impact of the project puts at risk the overall ecological system in the Souris River basin. I am convinced that it does not. I might say at this point I was usingthe number of 90 percent of the peoplein this area support the project, yetafter attending the meetings in Oxbow and in Regina, I think I have to raise that a little. There is tremendous support, and for your information, since the ruling was brought down by the court I have not received one negative letter, not one negative phone call, but many positive, and that by people of all persuasions.

I am convinced that the rather overwhelming consensus of the area residents, is that this project, with appropriate mitigation efforts, would be a practical step towards a sustainable development of the region. And might I make one comment there, sir? I think that our people and our constituents of Souris-Moose Mountain have a desire to meet the problems that may exist in the environment, and I think are doing everything possible to mitigate those problems. I think that was most evident in Oxbow last evening.

The IEE asks if there are any significant adverse effects on our region's ecological system and area of federal responsibility. We must not forget that the reason for this is to ensure the opportunities of future generations are not threatened by irrepairable damage to our environment. Sustainable development, as defined by the Bruntland Commission, and Mrs. Bruntland made this statement, which I think is very important, is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. I put forward that Rafferty-Alameda project meets this definition, and will enhance the ability of future generations to meet their needs as well.

We in southeastern Saskatchewan are very concerned about the sustaining of our rural way of life. In recent years we have had many challenges to maintain that way of life. The challenges have been economic and nature-related. The Souris basin is classified as a semi-arid prairie with little precipitation. We have just passed through a hard year of drought. Last year 27 urban centers and 31 municipalities applied for help in finding water. I was speaking on the plane to the PFRA people coming out here. They told me that they had 22,000 applications in Western Canada, individual applications for water supply. Certainly, important water management is important to this area.

I want to stress too, as having chaired the Task Force on Drought, the first concern that we received was water. How are we going to water the cattle, how are we going to get water to our towns and villages, how are we going to deal with water management? Most important. And in the '84-'85 drought, the same situation was predominantly the first concern that we faced. I stood for the first time in my life in the bottom of our dugout last year, and that dugout was deep, and this was not unusual to southern Saskatchewan. Most important that we have good water management. The trend over the past years seems to indicate that this type of drought may not be an exception to the years to come. We need more reliable water supply. This has been recognized by everyone for years. I want to say at this point, in talking with Alvin Hamilton about the project, that he was very, very concerned, and as you know, sir, has been making the point aboutthe importance of water to this area which he knows so well, which he represented so well for so long, and it is most important that we deal with it and deal with it expediently.

Few in the rest of the country realize the dominant role that water plays in controlling the future of this region. The Rafferty-Alameda project is a sensible water management plan to deal with water supply and problems. Will the Rafferty-Alameda project damage our ecosystem? We, who live in this region, tend to chuckle a bit about that. I say this at this point, that if you happen to be from the west or from the east or from miles away and you think of a valley that's going to be flooded, what do you think of? You think of a lush, fertile valley, well-treed, and the destroying of the flooding. This is not the case, sir, as you will see as you visit the valley, and I hope you do that, and the environmental people that are with you.

Most of us are aware of the problems in Africa, the advancing Sahara Desert. Environmentalists around the world are concerned with stopping the damage that is being done as the deserts take over. I want to say something about this, because I have lived in the area all my life, and the reclamation of land on top and around the valley. Some of that land in my opinion, and I put that forward on the Task Force on Drought, probably should have never been broke up. If you go especially southwest of Midale and in that area, you will see sand dunes that the farmers here can attest to, that drifted as a result of the droughts, and that land is being acquired in the mitigation through the Provincial Government, and I think they are doing an excellent job of putting back land into community pastures and dealing with those problems that you have identified. Yet here in Saskatchewan we face opposition of trying to stop the same type of damage brought about in other parts of the world. The concern raised in the Initial Environmental Evaluation relates to such matters as waterfowl production, water quality, the loss of community pasture are important, and should be addressed, and I feel have been very well addressed. I have read, very carefully, the brief put forward by the Provincial Government -- and I think they have done an excellent job of dealing with the mitigations, as have many of the witnesses who have appeared -- suggest that in each case mitigation is possible, and in fact the Provincial Government has given its undertaking that this will be done.

I would like to conclude my remarks by saying that we who live in southeastern Saskatchewan want to be able to determine our future. The vast majority of the area residents support the project. There is no organization that stands to gain, but all in southern Saskatchewan stand to gain. Some environmentalists are concerned that this project threatens our future, but we believe that Rafferty-Alameda project is an important way to plan our future for this generation and the generations to come. I thank you, ladies and gentlemen.

MR. MILLARD: Thank you. Janet Panteluk?

JANET PANTELUK: Members of this Environment Canada panel, ladies and gentlemen.

When I first considered speaking to this panel I was going to elaborate on a letter I wrote in January to the editor of the Estevan Mercury in reaction to a questionnaire I was asked to complete by the Canadian Wildlife Federation from Ottawa, incidentally, where they think they know what is best for us. Since then the same group, plus their sidekicks, SCRAP, have actually managed, through legal technicalities, to stop construction on Rafferty dam, and so although my previous writing is still true, I have had many more thoughts.

One is how could Saskatchewan Wildlife Federation have gone completely against their affiliated Estevan branch in this matter? Estevan is a big contributor, labour-wise and money-wise. My family has, over the years, contributed dirt work, money for purchase of habitat land, annual donations and subscriptions to magazines. I know how Saskatchewan Wildlife did this. The executive did it without a vote of their members and without agreement from the concerned local branch. Even labour unions can't sign a binding agreement with management without a vote of their members. Who appointed the Wildlife Federation to control our country? Not their members, not the present Government of Saskatchewan, nor of Canada. Was it Lorne Scott or another political party? I believe we need a Wildlife Federation or similar group to co-ordinate efforts to help preserve wildlife, but basically it's the farmers who look after wildlife, the same farmer who maybe could use some of the water from Rafferty-Alameda lakes, and maybe get more frequent rains because of the proximity of the lake.

Lorne Scott of Wildlife, the park naturalist at Wascana, has headed and pushed this whole fight against Rafferty-Alameda dams and would have us believe he knows all there is to know about wildlife.

Janet Panteluk
Estevan, Saskatchewan
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At Wascana the goslings got poisoned because no one, including naturalists, realized the pesticide used to spray for insects in the trees would fall to the ground where the young birds ate it in their normal diet of green grass. Therefore, do you think he or other proclaimed naturalists or ecologists are really the best judges of what's best for our region, or do the people who lived here all their lives know best? Our farmers, other citizens, and possibly even I, do more to protect our wildlife, our fauna, than some of the professionals. Many of us are looking after our environment, our habitat, in our day-to-day work.

I don't throw away anything recyclable, I will try to resuscitate the bird that flies into my window, but don't expect me to rush out and campaign to save the housefly, mosquito, grasshopper or aphids. That's comparable to the Wildlife Federation saving the deer, and that's great, but let's not worry so much about some plants that are weeds to most of us that grow only on Rafferty site. Be glad they grow only on that site. These few endangered species can be saved in a naturalist's back yard if he wants them. I think the majority of us believe that being able to grow good forage for our livestock and gardens for our people, with some irrigating in the dry spells from the two lakes, is more important than keeping these endangered flora species in their present habitat, the Rafferty lake site.

The need for water is one reason we are promoting the conservation of water by building the dams. I was born to drought and know how necessary water is to life. When I was little on the farm, we irrigated our garden from a deep well powered by Saskatchewan wind with a system of pipes and wooden troughs, lots of hard work, but we had quality food the year round. My dad, always on the R.M. Council, was active under PFRA, promoting farm dugouts dug with horses and small scrapers to save water, and strip farming to save our topsoil. Of course there was no rain. We had snow, but no lake for saving the runoff, so irrigating was non-existent for crops. Wildlife moved out or died.

The study is concerned about poor water quality. To be worse than what was in the Souris below Estevan last spring, 1988, it would have to be bad. My Friend John pumped it on his garden, and that was the end of the garden. The golf course had a similar problem. It would have to be pretty bad to be worse than the water the Town of Bienfait has, very alkaline and full of soda. It is hard to decide whether to water lawns and garden or let it dry it up. The water ruins the dirt for the next year even.

And when the City of Estevan, Towns of Radville, Oxbow, Bienfait or any others get too short of water, and some towns have hauled drinking water by tanks from distant sources, then the quality of water gets less important. It's the availability that counts. There are ways, now, to purify water for drinking. I really don't believe the water in Rafferty or Alameda lake could get so badly polluted it couldn't be used for irrigation or sport. The water from farmed fields would need to flow over uncultivated land to get into the lake, so let's not be so pessimistic about the harmful effects of chemicals in the runoff water. At least we might have more water to dilute them.

Another important, often-overlooked point is that where there is a body of water, a lake, an ocean, or even a wet field after a heavy rain, the water that evaporates during a hot windy day comes back down in the surrounding area in the next while. It won't be acid rain here, because we don't have the old non-scrubbed emissions that are found near the old eastern factories. God will irrigate from these lakes better and cheaper than man, but he needs man to build the dams he forgot, and man needs to keep the smokestacks clean.

Another question, will the lake fill, we are asked? Anyone who has lived here even as long as I have and have seen the flood that can come in spring will answer "yes". After the past seven or eight years of little snowfall, Boundary dam level was dangerously low. However after just one winter, the past one, with a reasonable snowfall, the water is back to a comfortable level. All we need to get a body of water established in Rafferty lake is a dam and a foot or two of snow in the winter, and reasonable rains through the summer. Our worries have been answered the past seven months. We have seen a sample of what God can give, more snowfall and rain than for a few years, but the dam, not built, like the rain barrel not under the downspout, can't save the water for tomorrow's dry spell.

The study is concerned with navigable waters. Since I have lived, this river could not have been navigated unless maybe for the week during a flood on some sections. There are roads and low bridges, now, that would not allow any navigable distance, so this topic is really not addressable.

Fish are causing concern in the report. We did catch a few catfish and suckers years ago at flood time, but we now have quality eating fish in Boundary Lake which could and will flourish in Rafferty and Alameda lakes.

But besides the concerns raised in the draft IEE I am concerned about the control of this project lying beyond Saskatchewan, North Dakota, and Manitoba. The rest of Canada, B.C., the Rockies, most of Alberta, Ontario, Quebec, the Maritimes, I believe, have more dependable rainfall as well as more waterways and lakes, natural and man-made, than we do. Are we such second-class citizens we can't have what they take for granted? Take away all the dams in Saskatchewan; Wascana, Coronach, Diefenbaker, Nipawin, Boundary, oh oh, but that means don't put the light switch on, there won't be any power.

Why has Canadian Wildlife decided to lean on this project? Because we are just Estevan constituency in Saskatchewan? Let the Wildlife Federation put their muscle where it's needed, on shutting down the oil tankers running through iceberg waters at night, in the east, in Ontario where the big old money is running factories polluting the air and the water, pleading poverty instead of installing purifiers on their discharge systems.

Let's put our faith in the commitment of our Saskatchewan Government and Saskatchewan Power, affiliated with SBDA, in the venture to do what is necessary for our environment. SPC is well known and respected locally for doing all in their power to avoid pollution and damage to the environment. We have worked for them and have had them scrutinizing our work to see that no leaks are in the dikes or lagoons built to hold ash from coal-fired power plants or other waste; making sure all the topsoil and black dirt, is saved before the deeper overburden can be removed from above the coal seam to be mined, because that topsoil needs to be respread after coal pits are backfilled.

We see, here at Estevan, geese nesting on the islands in the ashes in the ash lagoons, flourishing right in the midst of the ash waste that has been pumped into these lagoons to settle, swimming in the water, no problems with reproduction, no cancer from the ash. Almost unbelievable when you hear the horror stories about our environment. We really aren't in that world of killing pollution out here in Saskatchewan, and because we are all wiser now than 100 years ago, as our plants or factories are built they will be forced to keep a clean discharge, be it smoke or other waste. In fact, SPC have even improved on God's work in some places. When God made the world he never did say "don't change anything, leave it exactly as you found it". I think he did what was reasonable in that time, and then made people, most of them with brains to carry on his work. Even our Canadian beaver build dams for themselves and friends, and without an Environmental Impact Study.

MR. MILLARD: Thank you. Don Ohla.

DON OHLA: Mr. Chairman, ladies and gentlemen, my name is Don Ohla and I presently serve as the Reeve of the R.M. of Weyburn. I first of all wanted to take this opportunity, to thank you, Mr. Chairman, for you allowing the R.M. of Weyburn to be here at your hearings this evening. I don't know how familiar you are about our municipality, but briefly for your information I want to say that the size of our municipality is 18 square miles, the City of Weyburn lies in the center of it, and the Souris River flows the entire length of our municipality, running from a northwest to a southeastern direction. I may also add that five of the seven members serving on our municipal council are people that either lived or farmed beside the Souris River all of their lives, so I can say in all honesty that we do have a fairly good understanding as to how this river affects us during the dry years and during the flood years.

I am here today, Mr. Chairman, to express our strongest possible support for the Rafferty-Alameda project. In a part of Saskatchewan where we are familiar with recurring floods and droughts I can't, for a minute, agree with those people who think we don't need to conserve our water. When I say conserve our water, I mean we have to build dams and create storage reservoirs to hold the water from the average and flood years so we have it to use during the low average and drought years like we have experienced in the 1980's.

If anyone checks the records for the past hundred years, our weather patterns seem to go in cycles. In the 1850's when Palliser first studied the west, he said it was part of an American desert, dry and unfit for settlement. This was in 1857, I believe. But by 1880 or 1882, when John Macoun came out here to find a route for the railway for the federal government, he reported it was lush and green. Just look at the difference a year makes here.

Remember last year at this time when it was over 100 above, high winds, dust clouds, everything was brown, and we were praying for some rain? This winter we got a bit more snow and it soaked in like a blotter. We have had some spring rains, so our crops are greener and healthier than they have been for years. All we need is a few good years in a row, and we will be ready for runoffs like the 1950's and 1970's with floods. A one in 100-year flood will fill the reservoirs with high quality water for years to come.

We have studied these dams off and on for years. We have waited for this opportunity all our lives. We can't afford to miss it. The Americans are willing to pay half the cost; Sask Power needs water to cool the Shand power plant, they too will pay their share; and we can certainly use some new and larger lakes in southern Saskatchewan for irrigation, recreation, and waterfowl.

The last few years it has been so dry that the only water we had around was what we had stored in reservoirs like Lake Diefenbaker, Nickle Lake, Dead Lake, Boundary reservoir, Lake Darling north of Minot. Where would we be without dams and reservoirs? The federal government, through PFRA, certainly knows the value of water projects like Rafferty. They were the ones who first proposed it in 1932. They have been building dams, reservoirs, and dugouts for over 50 years to drought-proof the prairies. I urge you, Mr. Chairman, that you recommend approval of this dam because we need it desperately.

I want to say a few words to you about some of those people who have opposed Rafferty, particularly the Canadian and Saskatchewan Wildlife Federations. I am more than a little bit disturbed by those who think we farmers should continue to support wildlife while they go around killing them off for the fun of it every fall. They call it hunting. They are sportsmen, they say. Over the last 20 years these people have killed thousands of deer. Now they oppose building Rafferty because a reservoir might disturb some of their deer. What do they do when they go out with a licence every year to kill 25 to 50,000 deer in this province, and they have the nerve to say that we farmers are to blame for the declining deer population? Not true, Mr. Chairman. We raise them, we feed them, they don't. They shoot them for sport and call it harvesting deer.

Mr. Chairman, the same is true for ducks. I don't know how many they harvest each year, but I am told it's in the hundreds of thousands. Now they are concerned that the duck population is at a critical low level. I ask you, who has been killing them off faster than they can reproduce? How many were slaughtered in the wet years like the 1950's and the 1970's? That's what happened to the buffalo, Mr. Chairman.

Don Ohla
Estevan, Saskatchewan
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Now the point I want to make is this: If these people are so concerned about declining numbers of deer and grouse and ducks and other wildlife, why don't they stop killing them faster than they can reproduce. Some of us hope to reduce the killing by posting our land no hunting. Now we know this upsets many of the members of the Wildlife Federation, but if they won't regulate themselves, then I think we have to.

Our own Weyburn Wildlife Federation has opposed the Rafferty project, just like the provincial organization has. Mr. Chairman, I can't believe it. Surely they realize the benefits of conserving water for wildlife and many other uses. Where would Weyburn be today without Nickle Lake reservoir? Where would Regina be without Diefenbaker Lake and Buffalo pound reservoir? Those Rafferty and Alameda dams will benefit all of southeastern Saskatchewan. We need to have water for our farms, communities, industry like Sask Power. We need water for refilling dugouts for cattle as we have in the last few years, we need water for wildlife. Nickle Lake reservoir produces waterfowl and is used by many other wildlife species. Rafferty will do the same, but many times over.

I want to point out, Mr. Chairman, that the wildlife mitigation plans worth millions of dollars and thousands of acres of wildlife lands were developed in co-operation with the Estevan branch of the Wildlife Federation. It is interesting how those people can see the benefits to them while others miles away do not.

In fact, Mr. Chairman, we farmers in the R.M. of Weyburn are so mad with these Wildlife Federations, both Canadian and provincial, that we hope to write to all rural municipalities in the province to ask farmers to post their land either no hunting or hunting with permission only, and after paying a fee for entry on our land. We think it's about time these people recognized that their hunting licences do not give them rights on our private land. If these people are so hell bent on killing the deer and ducks as fast as we can produce them, they had better be prepared to put their money where their mouths are, because we are sick and tired of hearing how the Rafferty dam will affect wildlife in this valley when these same people only want the deer and ducks out there so they can kill them in the fall, and I think they should be well aware of that fact, Mr. Chairman.

Now how about fish? Where do we have to go to get good fishing? It sure isn't the Souris River. But we do have fish in Nickle Lake, Dead Lake and Boundary reservoir. These are reservoirs behind dams. They weren't made for fish, but fish use them. Why? Because that's where the water is. Lake Darling, they say, has a $4 million sport fishery. That reservoir was made in the 1930's to store water for the wildlife refuge. They have used Saskatchewan's water for 50 years and developed a good fishery. We will do the same at both Rafferty and Alameda. That's what the water management plan is all about. Without storage behind dams, there is no opportunity to do this. This is the very reason that Lake Darling reservoir was built. Without it, all the flood water would run by and there would be nothing left to use during the drought years. The American wildlife people recognized the benefits of their Lake Darling, but it seems to me our Canadian Wildlife Federation people just haven't been able to figure that out yet.

Now I am no specialist in waterfowl, Mr. Chairman, but I do know that reservoirs will do far more good than harm to wildlife in general. Who, today, would do without Lake Diefenbaker or all the other reservoirs we depend on? Would Manitoba do away with their dams and Lake of the Prairies reservoirs on the Assiniboine River? This too is a prairie river like the Souris River. In fact I even hear that Manitoba is even proposing some of their own dams on the Souris River system to make use of the water flows down the Gainsborough and Antler and Pipestone Creek.

These hearings are being held here to hear what people think about the Rafferty-Alameda project. Environment Canada is supposed to protect Canada's interests. This water that will be stored and used is Canada's water by agreement. Environment Canada should be helping Saskatchewan to keep its water and not putting up roadblocks. We have waited 50 years for this project. We don't need more study, we need the dams now. If the Federal Minister wishes to put certain conditions on the licence, as was done the first time and like the Saskatchewan Minister of the Environment did, he should do that, but he must acknowledge our legal right to the water and help us.

In conclusion, Mr. Chairman, I want to say that we must get on with the job. We have wasted a lot of time, we have wasted a lot of money, and we have wasted a lot of energy because of the Canadian Wildlife Federation's opposition to the project. I think it's time that we in Saskatchewan were allowed to protect our own interests, our wildlife and our people. Canada is supposed to help us. Let's work together and get on with it now before any more time and money is wasted. As far as I am concerned, these people who want more and more studies have lost sight of reality and common sense. Some of those, who don't even live here and don't understand what water means to us, have been listened to for far too long. I hope the Federal Minister pays more attention to our needs. Thank you Mr. Chairman.

MR. MILLARD: Thank you. Mr. Bert Weichel?

BERT WEICHEL: Good evening Mr. Millard, Mr. Burns, ladies and gentlemen. Thank you for this opportunity. I come here tonight as a pro-development person concerned about the future of Estevan and the Souris basin.

I have reviewed the IEE report on behalf of the Saskatchewan Environmental Society, and I find that it does reveal significant impacts and data gaps for areas of concern to federal jurisdiction. The report admits that, and this is refreshing when compared to the provincial government's and Souris Basin Authority's impact study. This IEE, however, does not address one of a number of serious conceptual flaws in this whole megaproject, and that's water management. I would like to elaborate on that a little bit, because that's one area of federal concern.

This is not water management. This scheme does not make sense to us. It is designed to put in place a number of very costly consumptive users of water. For example, despite acknowledged water scarcity, forced evaporation by two thermal power plants would total 12,500 cubic decameters. That's an amount that three times the present municipal consumption of Weyburn and Estevan combined. This amount exceeds the entire annual flow of the Souris River at Estevan in 18 years during the 1912 to '88 period of record. That's 24 percent of the time.

Secondly, taken together, natural evaporation from the reservoirs, forced evaporation by the power plants, irrigation and other consumptive uses, will average 55,400 decameters according to the Souris basin's report. This amount represents 95 percent of Saskatchewan's normal share of the average total annual flow across the U.S. border, and it's also equal to the river's total flow in 34 of the 76 years of record. That's 45 percent of the time that the total flow of the river would be consumed by all of these water users.

Now I have heard concerns expressed by Mayor Empey about water shortages in Estevan. We can relate to that. Dams will do something about water shortages. However, in order for water management to meet the needs of people, people have to understand what those needs are. They have to understand if water is going to be controlled, what is it going to be used for. The purpose of the provincial impact assessment and the purpose of the federal EARP process is to ensure that developments make economic environmental sense. If they do not, we should look for alternatives that do. We see before us a plan which is consumption oriented. It will put in place better ways to evaporate water, better ways to convert agricultural land to coal-mine spoil, it will put in place better ways for us to increase Sask Power's debt, and therefore the percentage of our power bills that go to pay the interest on that debt. It's now about 40 percent.

Bert Weichel
Estevan, Saskatchewan
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I was glad to see that Mr. Gustafson raised the question of sustainable development, because I want to elaborate on that point. It's an area of federal concern as far as our feelings go. The federal government has gone to great length to verbalize its commitment to sustainable development. It has endorsed the Bruntland Report, the Royal Commission on Environment and Economy, it set up the National Task Force on the Environment and Economy, it established a national round table which has just begun meeting, a national round table on sustainable development, it put senior ministers of the inner cabinet on that round table and we, as members of the Canadian Environmental Network, an organization representing 1,800 environmental groups, were very pleased to see that. But what we feel in relation to Rafferty-Alameda and water management in Souris basin is that we must shine the light of sustainable development on this project in order to see how it can be improved. After all, if this gets a federal licence under the International Rivers Improvement Act let's be sure that it's an improvement.

On Monday of this week I was in a meeting with the Federal Minister of Environment, Lucien Bouchard, he was meeting with the Canadian Environmental Network, representatives thereof. He again verbalized his commitment to using sustainable development to guide the future of the Canadian economy. He said very strongly that he feels that the Environmental Assessment Review Process that the federal government has, which we are calling EARP and which has caused the delays in this project, is a tool which we can use in order to do that.

If the final IEE report (which comes after these meetings and is forwarded) to the Minister recommends against a comprehensive, thorough, and impartial assessment, basin-wide, of this development plan, it could tempt Lucien Bouchard to make a decision not to move this process to Step II, and the people of Estevan and Souris basin in Saskatchewan have nothing to fear from Step II.

If, however, these meetings and that report result in recommending against that Stage II, it will tempt Lucien Bouchard to make a decision which will leave the significant impacts and gaps indicated in the draft IEE report unaddressed, it will fly blatantly in the face of the Federal Minister's commitment to the EARP process as a means of helping Canada move more closely towards a sustainable future, and lastly, it will rob us once again of the opportunity to create a revised development plan for dams and water storage in the Souris basin, which is something we really can't afford to do.

Irrigation will be a benefit we are told from this project. Irrigation will go some distance towards mitigating the agricultural losses from the land which will be flooded, from the land which will be dug up for coal mining. However, irrigation is capital-intensive, it takes a lot of money, and therefore it's economically more vulnerable to sustained drought. The people who might consider irrigation should ask themselves what they do for water when the Rafferty reservoir spends 10 to 12 years below the working supply level, that level being the point at which no further uses, other than cooling the Shand power plant, are allowed.

If water management is important, if water conservation is important, if water is important to the people of Estevan, what they would be doing is asking for a revision to this whole plan in order that the water be put to sensible use. Both those power plants can be air cooled with the same amount of water, the waste heat could be recaptured, it's called cogeneration, it could be put to useful purposes, greenhouses for example, and the water freed up, no longer forced to evaporate because these things are wet-cooled in open ponds, it could be used for irrigating the crops in those greenhouses. There are development alternatives which have not been considered. Thank you very much.

MR. MILLARD: Thank you, sir. We will take a brief break, five or ten minutes.

(Meeting adjourned at 7:55 p.m.)

(Hearing reconvened at 8:04 p.m.)

Doreen Bachorcik
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

MR. MILLARD: Can we come back to order, ladies and gentlemen? Doreen Bachorcik?

DOREEN BACHORCIK: Good evening, ladies and gentlemen. My name is Doreen Bachorcik. I live on a farm 20 kilometers northwest of Estevan. I am speaking as a concerned private citizen of the Estevan area.

I, along with my husband Paul, have operated a mixed farming enterprise since 1946. Since 1952, we have used 1 1/2 sections of Souris valley and uplands as pasture and hay-producing land for our cattle herd. Both my husband and I have lived our entire life within five miles of the Souris River north of Estevan. I am addressing this inquiry to support the positive aspects of the initial environmental assessment, and to again stress strong support for water management of the Souris River.

We have been involved since 1960 in local organizations for water management on the Souris, such organizations as the Hitchcock Water User's Association, the Souris River Protective Association, Citizens United to Save the Valleys, Souris River Support Association, and now the Souris International Goodwater Group. Our own strong concerns stem from years of frustration trying to manage a feed and grazing requirement in the face of great odds, odds such as spring floods; full-scale draining upstream, and it's been going on for 25 years or more; summer flash floods which drive the Souris in reverse, flooding the crops and the hay meadows; then of course there is a lack of water to flood our hay meadow in drier years and last year no water in the Souris at all, yet in flood years thousands of acre feet have flowed away.

In 1974-'78 a joint study was done by the federal, Manitoba, and Saskatchewan governments called the Souris Basin Study. The study recommended that a large dam on the Souris northwest of Estevan was the best answer to flood control, but not economically sound. It needed industrial expansion to warrant such a dam. It is now possible, with the Government of Saskatchewan identifying water as a developing and precious resource, and with the building of a full generating electrical plant named Shand.

After reading and studying the IEE report, I would like to point out the following positive aspects. One, in regard to adverse effects on waterfowl production, it states that complete mitigation of water impact on waterfowl habitat is feasible. I believe that this is, in fact, now beginning to be done by the Souris Basin Development Authority. They are well aware that implications to wildlife are quite diverse, and in some cases not fully understood, but through research, planning, and development of a long-term wildlife management plan, and with the help of local Saskatchewan Wildlife Federation, Ducks Unlimited, Parks and Recreation, etcetera, assisting this group, it can progress beyond the stage at present where local land is negotiated to replace existing habitat and tree planting is being addressed in the uplands. I believe that the Authority is doing a good job under their mandate. This whole aspect of wildlife resource management will need to become the responsibility of an authority or a successor in co-operation with other government departments, agencies, and special interest groups. A long-term plan should be developed. I believe that a body of water like Rafferty reservoir will not destroy, but enhance wildlife.

Wildlife needs water, not a dry parched riverbed.

Number two, in regards to the decline and possible elimination of fish population in Lake Darling, I, as a good friend to my American neighbours in North Dakota, would not like to see too much adverse effect in that regard, but I must point out that there is little fishing done in the Souris between Weyburn and Estevan, due ,of course, to a lack of water, and if the dam was built there would be lots of fish. We would invite them to come up and fish in our dam for a change. The North Dakota people believe in water management and will, no doubt, be able to build a fish refuge in their lake. River habitat could be replaced by reservoir habitat. It is interesting to point out that any fish that are caught along the length and breadth of the Souris are caught at Weyburn dam, Midale dam, Boundary dam, Oxbow dam, and in the spill piles to the southeast of Estevan which are stocked by the government. I haven't seen a fish in the river south of Hitchcock for five years. This could, of course, be overcome by water management.

The IEE mentioned the loss of federal community pasture lands. Mitigation of the impacts would be achieved through replacement of this pasture land. Much of the uplands have been plowed and seeded to crops, but Palliser once told us it is not suitable, and it is as true today as it was when the west was opened for settlement. The federal government has set aside money to see that this fringe land is put back into grass. This replacement land would be equal or better in herd-carrying capacity.

The evaluation mentioned the fact that the Estevan-Cambria Pasture would become a long peninsula between bays making fencing difficult. I am sure that any pasture manager can manage this after fencing the hills of the Souris basin. Besides, roads can be rebuilt as well as pasture headquarters. Most of these headquarters are only a few corrals. Most managers have their business office in their own homes.

One significant impact was mentioned and that, of course, is navigable waters. I believe that this can be controlled through design and proper marking of hazards to navigation. It is interesting to note that there has been little concern about navigation on the Souris. From Weyburn to Oxbow there is so much debris you can't even navigate a canoe, and believe me I have tried.

Water management is the key to downstream flows. Even today small dams, plug channels, etcetera, have an adverse effect on those downstream. If it were controlled and water quality objectives for the whole river developed, it could be controlled through multi-level outlets and reservoir releases, and the whole basin would see a marked improvement in water quality.

Mercury in fish is stated as a moderate impact. Does the federal government measure all mercury levels in fish caught in lakes and rivers and ponds in Canada? I believe that water quality should be measured by international standards.

In summary, I would like to thank those people in Environment Canada who have produced this Initial Environmental Evaluation. It is an interesting and thought-provoking document. It is a study that will produce, in all who read it, a positive feeling towards our need to preserve the natural world in which we live.

In closing, I would like to mention two thoughts. I have always believed that man will never destroy nature. Look at our coal pits in the Bienfait area. Man dug them up and left them in a mess, but it is nature who reseeds the grass there, plants the trees, and invites the wildlife back. There is more wildlife in these pits than you can find north of Estevan near Rafferty.

Secondly, I believe that the economic, social, and recreational aspects of this project must be taken into consideration as well as the environment. Progress is inevitable. If Saskatchewan is to grow and prosper within the framework of good environmental practices, we must change from a land-based economy to a diversified one. The land cannot uphold our young people. Only one out of every six will remain to farm, and these often find off-farm employment to survive. We need employment, and now, not 20 years from now when all environmentalist demands are answered 100 percent.

I suggest that we get on with the construction of this project and let those who know best how to mitigate its problems do so in the years to come. I have confidence in the Saskatchewan Environmental Impact Study. Thousands of pages are there. I have confidence in the well-trained personnel who have developed it and who will continue to look after all aspects, whether it is environmental or otherwise. Let us get on with the ways and means of improving the whole Souris

River system. Let us finish this dam and work at the environmental problems at the same time. We need water. If it had been managed in the '60's and '70's, there would have been enough water contained to flood 250,000 acre feet, and instead we have only 50,000 acre feet in storage along the entire Souris River basin. Total water management is the best answer. I support Rafferty and Alameda dams. Thank you.

MR. MILLARD: Thank you. Dennis Moore?

DENNIS MOORE: Mr. Chairman, Mr. Burns, ladies and gentlemen;

My name is Dennis Moore and I am appearing before you today on behalf of the Estevan Downtown Merchant's Association. It is the consensus of the members of our association that we convey our total support for the Rafferty-Alameda dam projects, primarily because of the overall benefits to the larger community, which includes the entire Province of Saskatchewan.

The creation and maintenance of the two reservoirs will provide employment for many new jobs. The presence of two large bodies of waters will result in a substantial increase in the tourist activity. I might point out, Mr. Chairman, that southeast Saskatchewan is noticeably lacking in water-related recreational facilities, and the prospects afforded in respect of the proposed dam sites is viewed with great anticipation by Estevan and area residents.

Mr. Chairman, Estevan businessmen along with their counterparts in other Saskatchewan communities depend substantially on the farming community for their economic well being. We are convinced that the proper management of available water and irrigation potential generated cannot help but increase the economic prospects of the farming community. That, of course, speaks well for the merchants of Estevan, and in all other towns and villages in the area.

And I would like to add to that, Mr. Chairman, that I would hope that this is a lesson for everybody, that when you are issuing a licence for a job to be done, that we should never have to face the experience of taking that licence back. For us small business people, it only adds to the problems when you have a poor economical year as we are having now, that is to say because we believed in the project, because we believed in the people that were issuing the licence, we stocked our stores accordingly. Most of us do our buying at different times of the year. We do bookings hoping, anticipating that some of this purchase would go to the job site, so you can well understand what happens when they withdraw the licence. And that's not to say that we are crying over spilt milk, we are known as a very energetic group of people in Estevan and area, and we will survive.

However, Mr. Chairman, it is not my intention to take up a lot of the board's time this evening. I simply wish to convey to the hearing that our association can see nothing but positive results coming out of the construction of the Rafferty-Alameda dams, and we urge this board to seriously consider the impact on local people in the completion.

I thank you for the time, and we hope that you will leave our good Town of Estevan and area with a positive attitude. Thank you very much.

MR. MILLARD: Thank you sir. Sister Therese Roddy.

SISTER THRERESE RODDY: Mr. Millard, Mr. Burns, ladies and gentlemen;

Our purpose in making a presentation to this board is to endorse the Rafferty-Alameda project as more than a highly-regarded water management initiative. We are confident that this project is designed in good faith to serve the needs of the area. By attending briefings within this community, we are confident that it represents a substantive opportunity for sustainable development of economic resources in our regional economy.

Sister Therese Roddy
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

It is as a principal actor in the care for the human resources of this region that I offer you my observations today. I see a critical need for economic opportunity and for the restoration of economic confidence in this area. In the 13 years I have served St. Joseph's Hospital of Estevan, I have observed the loss of youth to the area, and I know why they are leaving.

When Rafferty-Alameda was announced, we saw an opportunity to turn the situation around. There was optimism and there was enthusiasm. I looked forward to seeing more, rather than fewer, births in our maternity unit, and I frankly hoped that increased investment in the area would raise the profile of our hospital and make it easier for us to recruit the professional staff we require.

We like the Rafferty-Alameda project because it does more than just stimulate our local economy. It has sufficient scope for the future to hold some promise for stabilizing employment and income over the long term. That means a less transient case load, that we can be more confident in competing for skilled staff by offering more quality of life benefits in Estevan, and that we can offer full-time rather than part-time employment.

In current circumstances we have had to wait 1 1/2 years for a dietician despite our need to serve eight other regional centers. Happily, we now have one and are looking for a second dietician. Our pharmacists, education, X-ray, and laboratory staff also serve other areas. We are not a designated regional hospital, yet we respond to those needs. I am confident that we can hold our staff to make their homes here, but it is always hard to recruit and retain staff from outside the area. If we cannot offer a secure future, we cannot maintain a fully-comprehensive health service.

We also want to describe for you the impact of uncertainty on the population we serve. The economic instability which has characterized our area is manifested in stress, and this has a corresponding physiological impact. We are seeing more heart-related ailments and deaths among an increasingly younger group, and I believe this is stress-related.

Livelihood and life are linked and Rafferty-Alameda represents, in my judgment, opportunity to enhance both. Thank you for this opportunity.

MR. MILLARD: Thank you. Colin Inglis?

COLIN INGLIS: Mr. Burns, Mr. Millard, ladies and gentlemen; Mr. Chairman, my name is Colin Inglis. I am the golf course superintendent at Estevan Woodlawn Golf Club. I am here representing the golf club to inform the Environment Canada study team of the club's unqualified support for the Rafferty-Alameda project. This brief will address two areas where the draft IEE identified potential impacts on the Rafferty-Alameda project, namely water quality and water quantity. I would like to begin by providing some background information on our organization.

Estevan Woodlawn Golf Club Incorporated is an 18-hole grass green golf course located along the Souris River approximately one mile south of Estevan. The land on which the golf course is situated lies within the boundaries of the Woodlawn Regional Park, however, the golf club operation is independent of the regional park authority. Total membership currently numbers in excess of 400 men, ladies, students, and juveniles. The club is governed by a 16-member executive of volunteers elected by the general membership. Senior management staff includes myself, the full-time year round golf course superintendent, a seasonal clubhouse manager, and a head professional engaged under contractual agreement.

During the golfing season up to 25 additional full-time or part-time staff are employed to operate the pro shop, clubhouse facilities, and maintain the golf course. Annual operating expenditures are in excess of 200,000. Capital expenditure is somewhat discretionary, and vary with the financial position of the club. If you are undertaking major renovations of improvement to the course, we may expend in excess of 150,000 of capital development projects. The annual revenue base of the club is approximately 250,000.

I would like to outline our concerns under the existing regime of the river. The Estevan Woodlawn Golf Club Incorporated, along with the Woodlawn Regional Park Authority, have been long time supporters of water management on the Souris River. The golf club participated in the Souris River Basin Study undertaken during the 1970's, and is involved with the Public Liaison Committee organized by the Rafferty project proponent, the Souris Basin Development Authority. The club presented a written brief to the Rafferty-Alameda Board of Inquiry in the fall of 1987, copy appended. This brief identified two major concerns that the golf club had at the time; damage caused by flooding; and secondly, access to a secure supply of water.

At the time of this brief the Estevan Woodlawn Golf Course was in a surplus position financially with over $150,000 invested plus projecting an additional 50,000 surplus for the 1988 season; had earmarked this surplus to be applied to redevelopment of the back nine, a commitment in excess of 200,000; had tentative long-term plans to build a new clubhouse, pro shop facility, and the course itself was in immaculate condition, unquestionably among the top ten in the province and the best in southeastern Saskatchewan.

Sadly, all of this changed for the worse during 1988, and our problem can be directly attributed to water quality and quantity problems. Prior to 1988, our sole water supply source was the river water which cycled through the Estevan Generating Station and released into the channel which meanders through the golf course property. Each spring and fall the City of Estevan discharges its sewage lagoons into the river just upstream of the CPR weir which is just upstream of the golf course and Estevan Generating Station. There was virtually no runoff in the spring of 1988 to purge the river of the Estevan sewage release. The reservoir at Boundary dam fell to 50 percent of its capacity so there could be no release of fresh water to flush the river of the effluent from this source.

Not surprisingly, when we used this poor quality of water on the golf course, there were serious consequences, and the following quotations from the Estevan Mercury's report on the club's spring general meeting held on June 14th, 1988 will give you an appreciation of the serious nature of the problem the club faced:

> "Estevan Woodlawn Golf Club members are finding out grass is not always greener and they are going to have to tighten their belts because of it. Numerous projects were put on hold by the approximately 80 voting members in attendance. A new clubhouse, back nine development, and the hiring of a golf course marshal were all put on the back burner by the membership due to financial considerations. In the process, the club has decided to channel some of the money earmarked for those projects into the discovery of a new water supply, a problem many members feel is the most serious the club faces. The condition of Woodlawn's course this season has deteriorated by an absence of runoff, a dry spring, and recent hot windy weather. Tee boxes, fairways, and especially greens have suffered the consequences, and the club has paid the price for it financially. As of the end of May, men's membership and regular green fees have hopelessly trailed the club's budget expectations. The club had projected a $50,000 surplus for the 1988 golf season, but that figure has been sliced in half. It may go down further yet as the membership decided to lower green fees in hopes of attracting more golfers to Woodlawn. A daily pass will now be $10 instead of $15 while the nine-hole price dropped from $8 to $6. If traffic doesn't improve at

> the course the predicted surplus could drop to well below 10,000. The debate on lowering green fees ranged amongst the membership, but many said the former prices could no longer be justified because the course isn't in the type of shape it was last year. Water is at the root of the biggest problem facing Woodlawn. The water is not suitable for greens or fairways. Samples from May 16th to May the 30th were sent in. Tests showed the water quality to be getting worse. With the drop of income revenue and the advent of water problems, the membership gave two major course developments the boot on the night. On the shelf indefinitely are plans for a new clubhouse while the back nine development will be reviewed again in 1989. Plans for back nine development were displayed at the meeting as well but were quickly shelved as well. The undertaking was scheduled to start this fall but it won't be discussed until the winter of 1989. Final plans have been approved for the back nine but the club will now play a waiting game before putting them into action."

In a follow-up article which included an interview with head professional Wade Hudyma the Mercury reported:

> "Water supply and quality problems continue to plague the Estevan Woodlawn Golf Club. A couple weeks ago members decided to forego green renovations plans and clubhouse rebuilding projects in favour of placing time, attention, and finances toward obtaining a secure, good quality water supply. The problem reached dramatic proportions this summer when all the club's greens suffered dramatically due to a low quality of water that has salt content that is too high. Greens manager Brian Hank and his crew are working fiendishly with the process of hauling water to the golf course and the greens using one 500-gallon tank and another 1,500-gallon tank. Membership now stands at 450 including juniors, seniors, etcetera."

It's off about 50 members. This article quoted Mr. Hudyma as saying:

> "Daily traffic is down severely, about 25 percent not including tournaments. Some of it is due to the weather. Not many people want to play when it is 105 degrees Fahrenheit with 40 mile an hour winds. We had one of the best courses in the province last year and it will be great again."

In an effort to attract more casual golfers the club decided, last week, to drop their daily green fees from $15 to $10 for 18 holes of golf, and to $6 from $8 for nine holes. I have attached copies of the full text of these articles for your information.

Our actual experience of 1987 turned out not to be a surplus of 50,000 as budgeted, not even 10,000 as projected at the time of the spring general meeting, in fact we experienced a deficit of over 6 to $8,000. Over $100,000 was spent in 1988 to seek development of an alternative water supply. We were successful in drilling wells to provide a temporary supply, but it is not a permanent solution to our water problems.

The bottom line is that the devastating drought of 1989-'88 came very close to destroying our club. We are down over 100 members from 1987, we are concerned that without a long-term solution to our water supply problems this situation could occur again. We do not want to regress 30 years to the days of sand greens and unirrigated fairways. While the course is presently nowhere near the condition it was in 1987, we have witnessed marked improvement and we are optimistic about the future, a future that we see including the Rafferty dam and Shand Generating Station -- the Rafferty dam to ensure the secure source of water in the years there is no runoff, the Shand Generating System to take the City of Estevan sewage effluent directly via pipeline, thereby improving water quality in the river downstream of the city lagoons.

May I conclude with the following recommendations. We recommend that the task force recommend to the Minister of Environment that the federal licence to construct the Rafferty-Alameda project be re-issued. In our opinion it would be ridiculous for you to reject the project outright. We feel it would be almost as silly to recommend that further studies be conducted as you have many times. This river has been studied to death, and further studies will certainly not add any useful information to an already-overwhelming database.

We are of the opinion that the call for further study is simply a ploy by the project opponents, who are obviously a small group of vocal dissidents, most of whom are outsiders with no stake in the real interests of our valley. This fact was borne out by their conspicuous and complete absence from the public meetings at Oxbow last night. They prefer to play up to the news media in Regina rather than to confront those of us who live in the valley on our turf. Thank you, sir.

MR. MILLARD: Thank you. Dennis Moe?

DENNIS MOE: Thank you, Mr. Chairman. Mr. Chairman, Mr. Burns, ladies and gentlemen, my name is Dennis Moe, and I have a very brief brief to present, but I feel that it must be said.

I support the Rafferty-Alameda project as a businessman in Estevan, but principally as a resident of southeast Saskatchewan. For the 17 years I have lived here this project has been anticipated and finally welcomed as a highly-valued opportunity for effective water resource management. Water shortages are a major concern in an arid area like ours, as we have seen the last couple years, and any sized reservoir will be an improvement over what we have now. I am not really concerned with how quickly the reservoirs will fill or how deep they may be. It's vital that they exist. It will take very few years, with any amount of runoff, to accumulate a substantial amount of water, and I am confident that the quality of the water they contain will be superior to that which is now in the existing Souris River.

It is hard for me to assess the welfare of ducks over the welfare of people who live here. Our very future requires a water base that we can build upon with confidence. The Rafferty-Alameda project represents an opportunity that I believe we cannot afford to lose. The health of our community, the level of confidence people have in making their homes and careers here depends on water. Any future investment of time, effort or money in this area is tied to water, and I believe tied to the benefits we know Rafferty-Alameda can bring to this area.

I would like the licence re-issued, I want construction to proceed as quickly as possible, and I hope this hearing will do everything in its power to ensure we have no further delays in this very important project to our future. Thank you.

MR. MILLARD: Thank you. Tom Kase?

TOM KASE: Ladies and gentlemen, my name is Tom Kase, and I am a resident of Estevan.

Tom Kase
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

Ever since 1907, for over 80 years, there have been studies, hearings, discussions about the water management practices of the Souris River. The public was involved in the major discussions in 1932, 1940, '69, '74, and just recently. You have to realize that if Thomas Edison, developing the light bulb, had to go through the same amount of public participation, today we would be sitting here under a candle light.

The need for water management and storage of the water in southeast Saskatchewan is undisputable. Present and future developments, be it industrial, agriculture, municipal, or recreational depend directly on the availability of water.

Under the 1959 interim measures of the International Joint Commission, Saskatchewan is entitled to 50 percent of the water of Souris River. It is our right to keep the water. We need it and we are entitled to it. Those are the facts. The Rafferty and Alameda reservoirs are the tools of our future water management. Constructing the dams and flooding the Souris River and Moose Mountain Creek valleys will have an effect on the environment, but so does everything else we do as a mankind, from agriculture to industry to recreation. Every step we take affects the environment. Even our being here tonight has affected the environment by the emission of exhaust fumes and use of freon-filled air conditioners in our vehicles, yet we do all these activities. It would be impractical and virtually absurd. We do control our actions and take steps to lessen or reduce the impact on the environment.

The draft summary of the Initial Environmental Evaluation by Environment Canada lists six significant and four moderate adverse impacts the projects would have on the environment. The Souris Basin Development Authority's commitment of no wetland drainage and policy of no net loss of wildlife habitat for white-tailed deer, sharptailed grouse, or breeding waterfowl, and the proposed mitigation deals with the majority of these adverse effects. The draft summary states, and I quote: "The project would have a significant adverse effect on threatened species of the hawk." To me that's serious stuff. Not really. The known impact will be on one nest that was found within the Rafferty reservoir. One nest. The other nests, three other nests were found in the surrounding upland areas, yet artificial nest sites are to be located in tracts of grassland surrounding the reservoir, thus creating nesting habitat that has been successfully implemented in other locations.

The licence to build the dams was not revoked because of significant adverse environmental impact. The project was stopped on technicality. The loss of 1,700 hectares of pastures owned by the federal government is a technicality compared to the importance that this project has to thousands of people living in the area. We don't want to destroy the environment, and we won't. We have to live here.

While there are ten items of adverse effects listed in the executive summary, the positive impacts of the project have not been mentioned, benefits such as flood damage control, industrial use, diversification of agriculture, enhancement of region's wildlife, waterfowl, and sports fishing, recreation and tourism.

This project is vital to our future and the future of this part of the province. I am satisfied that the mitigation measures proposed are significant enough to drastically lessen the impact of the project. I would like to see the commission recommend to the Minister that the project should proceed without further delay so the people of southeastern Saskatchewan can enjoy the growth and development for years to come. The time is to build the dams. Don't deny us the right for water conservation.

I would like to thank the commission for allowing me to express my thoughts on the matter of the environmental impact of the project. Thank you.

MR. MILLARD: Bill Goodmanson?

Bill Goodmanson
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

BILL GOODMANSON: Mr. Millard, Director General Burns, ladies and gentlemen;

My name is Bill Goodmanson, and I am the incoming President of the Estevan Lions Club, and I represent the 22 members of our club which passed a motion at our regular meeting on the 13th of June, 1989 to authorize the presentation of the brief on the construction of the Rafferty-Alameda dams. We are in support of these projects, which will provide much-needed flood control in southeastern Saskatchewan, as well as downstream benefits. The need for these benefits to our community, both during construction and in the future, will be very important to us. I should point out that I speak as a layman, and I wish to comment briefly on a few matters which have come up in previous hearings and in news coverage.

Firstly in respect of the international nature of the waterway, one would have to believe that the ability to store water and control the flow of water would be an improvement to the entire waterway, and certainly more practical than the present condition of the river. The spring runoff creates a surge of water that by mid-summer has dwindled to a trickle, if that, in many places. The quality of water is a matter which, in our opinion, can only be enhanced, and in any event quality can best be addressed after we are assured of a quantity of water to be concerned about.

While there will be some habitat for fish and migratory birds sacrificed in construction of the dams, we believe that this will be adequately replaced by the new habitat created by the lakes. In addition, the mitigation undertaken by the Souris Basin Development Authority will further enhance existing habitat and create new habitat.

It is interesting to note that Ducks Unlimited is currently completing a project at Luck Lake, Saskatchewan at considerable cost to recreate waterfowl habitat by excavation and diking an area and providing a water supply which will be pumped from Lake Diefenbaker. Why should the lakes created by the dams not serve a similar purpose as well?

It is our understanding that the Souris Basin Development Authority has made a commitment to replace federal lands that are to be flooded. This solution would seem reasonable if one accepts that when a dam is built, some land is flooded.

The protection of rare and endangered species is an area of concern which must receive extraordinary effort to preserve and protect these species to the extent possible, and in consideration of the completion of the projects. It is interesting to note that this facet of the review process has become more visible in recent days. One wonders if these species have suddenly become rare or endangered, or were they in the same circumstances a year or five years ago? If the latter is the case, and I believe it is, why has no effort been made to preserve and protect them in the past? Perhaps stretching the interpretation of rare and endangered species, Mr. Chairman, our concerns are also for another species in the area which is threatened, the human species. The lifestyle of many rural Saskatchewan residents and the well-being of our rural communities is indeed endangered. We think the Rafferty and Alameda dams would be an important step in preserving the chosen lifestyle of many Saskatchewanians. Let us not add humanity to the list of rare and endangered species in the IEE.

Mr. Chairman, I would like to add a comment concerning the evolution of the processes to prepare and evaluate the viability of these projects. Suffice to say that much time and effort has gone into the presentation of briefs, reports, studies, and the like, both for and against. All are to be congratulated for their contributions. My concern is with respect to the attention given by certain media sources to the information presented. It seems that any negative or derogatory comments about the project, regardless of how obscure or from what far-flung source, is unilaterally accepted at face value and given in-depth coverage. The same cannot be said for the many positive aspects of the projects, which often receive brief and occasionally incorrect coverage, such as the pictures of the spill piles and the coal draglines that were purported to be part of the Rafferty dam construction.

In conclusion, we again express our support for the early completion of the Rafferty and Alameda dam projects in a manner consistent with good environmental management. The people of southeastern Saskatchewan have long looked forward to the day when the Souris River would be a managed waterway, and now it is time to realize the benefits of such development.

I thank you for the opportunity to be here to present this brief, and we wish you well in your deliberations, and I will forward a copy of this as this is the only one I have. Thank you.

MR. MILLARD: Thanks very much. Kelly Panteluk?

KELLY PANTELUK: Members of the review committee, those opposed to the Rafferty-Alameda project, and those in favour of the same project; I first want to tell you who I am, and that will explain why I am here. My name is Kelly Panteluk and I was born in Bienfait in 1960. My father Walter was born in Bienfait in 1928, the son of a Ukrainian coal miner. My mother was also born in Bienfait in 1927. She was the daughter of an Anglo Saxon farmer. This is pretty typical, I believe, of many of the people here today, but I have another reason for being here.

My dad and I own Panteluk Construction and, as I trust you are aware, Panteluk Construction was awarded the contract to build Rafferty dam because we were the lowest bidders and have the capabilities to do the job and have available the local expertise.We have a capable subcontractor for the gravel and rock portion of the project, W.F. Botkin from Regina, also employing people from southern Saskatchewan.

Our winter was spent gathering applications and getting a crew lined up, as well as locating and preparing additional equipment required to do the job, and planning construction procedures with Souris Basin Development Authority. We moved equipment to the site and were allowed to start four weeks after the planned commencement date on April the 10th. On the 11th we were advised by the Federal Court of Canada to shut down. We were ordered to stop the job as the Federal Court had been persuaded by the Canadian Wildlife Federation and SCRAP and a biased media.

Our two companies were forced to lay off 40 people instead of hiring 40 more. They went back on UIC. Some had moved nearer to the job and the job was gone. I am sure you will have heard, and you will hear more, of the devastating effects on the surrounding community of this decision.

The driving force behind the Saskatchewan/Canadian Wildlife's action was naturalist Lorne Scott of Regina, not even from the affected area, who prior to preliminary work on Rafferty was President of the Sask. Wildlife Federation, and later a director of the Canadian Wildlife Federation. He is also a director of SCRAP. This is the same Lorne Scott, park naturalist, who works for Wascana Park in Regina, a park that was, by the way, on a man-made lake formed by a dam built without an Environmental Impact Study. In this park this spring 80 young geese were poisoned by pesticide the park people who worked with Lorne Scott, naturalist, sprayed on the trees. Not as much media attention was given to the lab test results of the cause of death poison by pesticide as was to the actual deaths. I think the cause, ignorance of people who know better and profess to be promoting a beneficial wildlife study to aid in preserving wildlife, is more newsworthy and important than the actual deaths of those 80 birds.

Should you, the Environment of Canada, let these people stop our dam, we have citizens, some of whom you have heard from tonight and some of whom you will hear from later and some of whom you won't hear from, who go about caring, feeding, and providing shelter for the deer, antelope, turtles, migratory birds, sparrows, orioles, robins, and etcetera, by not spraying trees for insects but using more environmental-friendly means on a day-to-day basis with no fanfare, no applause, no media, just simply seeing that they are looked after. These people, the local wildlife group, will see to the fauna after the dam is built and the lake is formed. I am sure the wildlife will move back up, or move to dry ground.

Kelly Panteluk
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

They have some common sense when it comes to their own preservation. The geese might leave their feces on the beaches and pollute the water, but they will not spray insecticides.

The study concerns itself with endangered and rare species of plants, flora the environment name. My farming and gardening friends, they would say they would like to see a lot more weeds on the endangered if not the extinct list. Is it possible the environmentalists who have decided these plants are only found in the Souris basin have actually never maybe looked anywhere else for them? Just because the plant is not found in the City of Regina doesn't mean it's not scattered all across the prairies. Some plants are extinct because no one wants them. We could get along without some of the very plentiful ones.

Cattle and workhorses ate Russian thistle in the '30's, my folks tell me, and it was actually harvested for animal food and gave the animals diarrhea so bad that it was as hard on them as the starvation was, but there wasn't much choice, because there was no hay and no lake to do any irrigating. Now the scientists are looking for ways to make kosha (ph), which is maybe better known as tumbling weed, easier on animals. It causes the same problem. Wouldn't it be better to eradicate the thistle and the kosha and irrigate some good forage crops that can be used to feed our cattle and our deer and our hobby horses?

I have been to Phoenix, Arizona and visited the cactus park there with all the species in their natural habitat where interested persons can go to see them. This would maybe be an excellent way to preserve the plants which are endangered or rare, and can we also put in the sow thistle and the Canadian thistle, plankton and quack grass and a few others and get rid of them all, the wild ones that infect our crops and gardens? Preservation of our history. Last summer there were archaeologists and students out looking for historical artifacts in the area to be flooded. Where have they been for the past 80 years? Artifacts have been found by farmers digging a well or a basement, by a contractor digging a dugout or building a road, by a pioneer even digging a toilet hole, or by a farmer plowing his field, or by an oil company building a location. Maybe this hotel is sitting on an old Indian teepee site. Are we going to dig the entire surface of Canada up six or eight feet or more looking for the artifacts? If so, I would like a piece of the action in moving the dirt.

The IEE report discusses algae growth and poor quality of reservoir water. At Boundary dam there used to be an algae problem up to ten years ago. However, since I have lived there since 1982, this problem no longer exists. As the reservoir has aged and matured it is not there. Therefore, let's just not look at tomorrow, let's look ahead and build for the future.

As to the water quality downstream, would it not be better to save a supply of water in the spring to be released regularly and maintain a more continuous flow of water downstream rather than to allow the spring runoff to all flow through by the end of May, leaving stagnant portions of the riverbed through the hot summer and fall?

Regarding the use of chemicals by farmers, having done extensive dirt moving in the area for oil companies in the R.M. of Midale, I can attest to the fact that the immediate mile-wide strip of land paralleling the basin will never be farmed. The surface rock is so concentrated even cattle grazing the area develop sore hooves. The top foot of every hectare of this land contains a minimum of 1,000 cubic meters of boulder rock which I can show you. A third of that top foot is rock. By the way, this is the same type of land as the federal land that was involved in the project, which is to be replaced with higher-quality land further from the rocky valley rim.

Two concerns raised about fish and navigable waters seem to go hand in hand, although for the past ten years even a canoist needs better shoes than paddles because there is more portage than navigable river, but my folks, in the early '50's, really did have a small boat and did fish the Souris down near Roche Percee. They weren't able to navigate very far up or down the stream, but enjoyed the boat and their little fishing and the turtles sunning themselves on the old logs across the river. They also went to a dam at Oxbow in the spring and caught, with bare hands, sucker fish going up stream over the dam, and they ate these suckers. Obviously, there wasn't much other fish of better quality or they would not have considered eating the suckers. So maybe we could have more and better fish if we have another lake. Boundary Lake has allowed our fishing enthusiasts, many of them seniors, to enjoy this outdoor sport, and decent eating fish are in Boundary as will be in Rafferty and Alameda lakes. Panteluk Construction will probably help out by making some fishing holes accessible for the seniors fishermen, including my father and maybe again, when there is enough water let go down the river, some small boat can put out along the Souris from Roche Percee to Oxbow.

One other point I hear raised by many and feel strongly about as a Westerner from the have-not Province of Saskatchewan, why should persons and associations not directly affected by these dams have any voice in the decision as to whether to build them?

Ontario, where the Canadian Wildlife headquarters and where money came from to put this fight to the Federal Court, should not have jurisdiction over Saskatchewan and Manitoba, nor should they be allowed a day in Federal Court to fight against it. Ontario should clean up their act, which is a lot bigger and worse than a dam and lake in southern Saskatchewan would ever begin to be. Regina, except that taxpayer money is involved, have no right to interfere in these projects as the river nor the creek involved are in their area at all. They like to come out of the city and drive over farmer's fields and through their crops to shoot our deer and ducks and geese and prairie chickens that our people, and mainly farmers, have nourished and fed for the love of life. And even as to the taxpayer money, we country people pay taxes that go to benefit the cities too, and this area generates a substantial portion of the province's treasury's annual revenue with coal mining, oil production, power production, farming. What do they have against us country cousins? We deserve the right to some pleasures and the right to make our own decisions too. When the lake is filled we will probably have Reginans flocking out for the best cottage property and fishing in the lake, and yes, even polluting thewater and leaving their garbage behind.

I am strongly in favour of building Rafferty-Alameda dams, and I would like to address some of the alternatives that have been put forward by opponents of the projects.

One alternative suggested by Bob Lyon was to construct small dams on the coulees and ravines which feed the Souris, creating many smaller lakes, flooding upper reaches of these coulees, exactly the spots where the pheasants and the prairie chickens and deer and other wildlife do live, among the scrub brush growing up there, as any hunter or area farmer can tell you.

Another alternative put forth has been to dig deep, narrow holes along the valley bottom to store runoff water, the theory being less water lost to evaporation due to smaller surface of water. Being a dirt moving contractor I am well qualified to explain that firstly, the valley floor is composed of 80 feet of material deposited by floods over the centuries. This material is not stable enough to dig steep slopes in because it will slide in and the holes will need to be constructed with slopes of a minimum of 15 to 1, meaning a wide top on each hole. This would result in more surface area to store the same amount of water as the two big proposed reservoirs to be created by Rafferty and Alameda dams. I am sure the department have engineers available to explain this to them.

Is the Government of Canada going to deny the majority of citizens of southeast Saskatchewan, or any other region of Canada, the right to make their own decision on a project that affects only the region, such as these proposed dams, or should the statute that was interpreted by Judge Cullen in such a way as to cause him to order the construction stopped, be modified to allow the region to conduct their own study on a project involving no pollution that permeates the atmosphere?

I see a distinct difference between this dam project and, let us say, a factory with unscrubbed smoke stacks spewing out acid or an unclean substance from a factory being discharged into water or soil. I challenge the Government of Canada to modify the statute to accommodate this type of regional development that really has no nation-wide ramification. Even a change such as I am suggesting in the statute would be very long coming about. Therefore I hope that you, the Department of Environment for Canada, can understand the logic and the need for this project, and realize the sincerity of the proponents of the project to mitigate any detrimental effects that may arise, and you will see fit to reinstate the licence soon enough that construction can be resumed in time to catch next spring's runoff and we will see our future sooner rather than later. Thank you for your time.

MR. MILLARD: Thank you. Mr. and Mrs. Muirhead?

MR. MUIRHEAD: Mr. Chairman, Mr. Burns, ladies and gentlemen;

I want to thank you for the privilege of Joyce and I appearing together. We have been a team for 49 years, we will soon celebrate our 49th wedding anniversary, and a great deal of that time has been spent making a living on the Souris.

My wife has a poem which gives the woman's point of view of what it's like to raise a family under the conditions. We are only one of four families that have to move out of the area on account of the flooding, and Joyce will express in this poem her feelings on what it was like in the years that we lived, from 1946 until 1983, in the valley in a ranching operation. Okay Joyce?

JOYCE MUIRHEAD: There. Can you hear me? It is called Legacy to our Children:

Don't cry you people with a beef,
For losing is giving and joy is grief,
It is all mixed up in feeling and living,
And taking away is only just giving,
Why don't you want to give what you have gained,
Isn't that what we are here for in society's name,
You can't take it with you, so give to your son's,
The future that's here for your little ones,
Let me just tell you that when Rafferty is here,
I will be giving up all that I ever held dear,
I came as a bride to the Souris valley,
And settled with nothing, just my husband and me,
Not one penny we had, just lots of love,
And a faith in our father in heaven above,
He held tight to my hand through thick and through thin,
And gave me the courage each year to begin,
Raising six children to teach in my home,
Because no one saw fit to hook up a phone,
We hadn't a road, a car, or a boat,
Just water we had, in which we could float,
We lived on our homestead for 45 years,
Beside the Souris, a river of tears,
We could not move, we had to stay,
We were too poor to go away,
We broke up land, we planted hay,
And we would dream of the glad day,
When all this beautiful land of ours,
Would turn into a garden of flowers,

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It could have been done a little late,
But no one cared, they were afraid,
That money spent on our valley,
Was useless to the powers that be,
Each year I watched the waters rise,
Just like the tears within my eyes,
And take away a lifetime of toil,
And ask for more from this poor soil,
Those years were happy and sad by turns,
But in my heart the memories burn,
Of long days spent working and playing,
But deep inside I just kept saying,
This toil is for my family,
And some day this place will be for them,
To raise their little ones,
With the same joy and the same fun,
We built a house with odds galore,
And I stood at my kitchen door,
And watched the floods all take away,
The things I worked for night and day,
When Rafferty dam is finally built,
I will have given my all up to the hilt,
To a body of water,
I know in my heart,
Was meant to be right from the start,
This is our gift to our future sons,
And once again to their little ones,
A better gift we could not give,
And we give it with gladness as long as we live.

Thank you.

MR. MILLARD: Thank you.

JACK MUIRHEAD: Thank you for that, sir. The brief I am presenting, my name is Jack Muirhead, I am co-chairman of a group known as the Souris International Goodwater Group. The purpose of this brief is to bring to the attention of the Environment of Canada study team the Souris International Goodwater Group's unqualified support for water management on the Souris River, namely the building of the Rafferty-Alameda dams.

The group I represent was formed to bring to the attention of the public the dire need for water management on the Souris River and its tributaries. The 18 members of the executive of this group is comprised of interested people from five areas in the basin; the Yellowgrass area of the headwaters of the Souris River have four members; the Estevan group have five members, which I am representing tonight, there will be briefs presented by these other members in their own areas, because they know more about their own areas than I do; the Oxbow area has four members, and they had briefs presented last night from some of our members; Minot, North Dakota area we have four members; and we have one member from Melita, Manitoba.

This brief will be a review of the draft summary report. Having lived in the Estevan area all my life, I feel qualified to present my thoughts on what has gone on on the Souris River valley throughout the years. Study after study has been done, and here we are in the midst of another study. Personally, I have been involved with many organizations dealing with this river, Conservation Area

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Development Area Number 62, Hitchcock Water User's Association, the Souris-Moose Jaw Organization, I was a member of the Estevan Council for four years, Rural Municipality of Estevan number 55, I was involved in the study when Boundary dam was built and presented a brief at that time, and this study involved the public for exactly a half day.

Why have I been so involved? Having settled after the war under the Veteran's Land Act, I attempted to set up a ranching operation on land originally settled by my grandfather in 1893. Due to the irregularities of the river, it was almost impossible to realize this endeavour. Of seven veterans who settled in the valley under the VLA, there is only one remaining active, and this gentleman was a bachelor, he didn't have to raise a family.

Due to the poor water management on the Souris, we had no alternative but to sell to the government of the day. This was all the help we managed to receive. After being flooded from '69 to '79, the ten years, eight out of those ten years we were flooded out, and the only solution offered by the government of the day "we will buy you out". The same land I sold would now sell for about three times what I received, under the land policy now being used to acquire the land for the Rafferty-Alameda dam project, but we were destitute. Anyone that's had to raise cattle under the conditions where you have to go out and buy your feed eight out of ten years, the last year in 1978, our cattle bill for feed that year, 1978, was $30,000. Can you imagine, after seven years before that we didn't have to spend that much, but in 1978 we spent $30,000 that winter to buy feed. '79 we were faced with the same situation, exactly the same, a summer flood came down, and that's when we had to give up our operation. There is no way we could operate under those conditions.

The problem with the draft summary, as I see the situation at the present time, it makes no mention of people. Perhaps this was an oversight and not a deliberate slight, but we feel we also have a place in the environment along with the ducks, fish, rare plants, and endangered animals, etcetera.

In the draft summary it mentions the Souris Basin Study of the '70's. The recognition of this comprehensive study is imperative, as it took over three years and a great deal of time and effort on the part of a great many people. As I recall, it did not recommend the building of the dams at that time only because it was not economically viable without a major industrial use of the water to be stored. We now have the industrial use in the Shand Power Station. In addition, the Government of the United States has pledged 41.1 million U.S. 1985 dollars for the project to have flood protection for Minot and the land in the Souris basin in North Dakota. All the things required have now come together and favour this desperately-needed water conservation and management endeavour.

Why was the Souris Basin Study needed and who was involved? The government of the day was faced with a very serious number of flooding complaints, including our own, and our organizations'. We submitted very, very many briefs complaining about the state of the river. Through the years, beginning in 1953, a series of drainage schemes had been implemented in the Souris basin. Many of these projects were subsidized by the Government of Saskatchewan. Thousands of acres have been drained in the basin over the years. Was there ever a study done to find out what would happen to the water when it reached the Souris River? Many meetings were held in protest, but the government of the day chose to ignore them. However, the situation became so bad in the '70's that they finally decided something had to be done. Hence, the Souris Basin Study. This involved the governments of Saskatchewan, Manitoba, and Canada, three years of ongoing public meetings and presentations of briefs, and nothing was done.

Finally we have a commitment from the present government for the dams to be built, and what happens? More studies, more meetings, more presentations of briefs. Why? Because a group of people who vigorously oppose this project were successful in halting the project through the courts. Did these people oppose other projects in Saskatchewan, for example Gardiner Dam, Nipawin dam,

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Coronach dam, Boundary dam? As I said, we had a half day study, public involvement, when they built the Boundary dam on the same river. How come Rafferty and Alameda are so different? Where were these people when these dams were built? Where were these people when all the drainage was done? Our area is one of the driest in the province, almost one of the driest in Western Canada. Our ground water has been drained away, and all we want to do now is save what is going down the river in the wet years for use when we have drought.

Last year we suffered one of the driest years in our history. Our government spent millions of dollars in dugouts, well exploration for ground water, etcetera. Many of our towns and villages faced water shortages. Also, ranchers and dairy people in the area had to ship in thousands of tons of hay for wintering their livestock. Think about all the money spent on projects that were merely a stopgap. In our association we feel now is the time to face up to our problems.

Let us consider the area to be lost due to flooding of the valley. I will confine my remarks to the area of the Rafferty reservoir because I am familiar with that area.

The 57-kilometer area in question is, at the present time, or was owned by 44 private land owners. The Government of Canada, through PFRA community pastures, and the Government of Saskatchewan owned the rest. Of the 44 private land owners, most have sold out to the Souris Basin Development Authority. I personally contacted most of these people before they sold, and 90 percent were in favour of selling. To my knowledge only two, at the present time, are holding out and are against the project. That's of the 44 qualified land owners.

What is the land like and how well does it produce? Our river is no longer in a natural state. Due to the drainage that has gone on in the past 20 or 30 years, we have a situation of severe flooding in the wet years, and a severe shortage of water in the dry years. We have no live storage to contain this water that goes down the river in the wet years. In the wet years we now have prolonged flooding. Water that used to recede in two or three weeks now lasts for six weeks to two months. The land has suffered due to the situation. At the present time, about one-third of the valley is alkalie. The situation is growing like cancer. Hence, we have a dying valley on our hands.

Due to the extreme drought, even the hay lands are not producing. The land or hay plots are owned exclusively by the Province of Saskatchewan, and people leasing these plots are to be compensated for the loss of these leases. These people have had the privilege for the last 40, over 40 years, of leasing hay plots from the Provincial Government to supply their feed for their winter operation, wintering their livestock. Now they are very, very concerned, but I say to these people the compensation that they are receiving and the years that they saved their own land for other uses, surely they can face up to the prospect that it isn't their own land. If they were renting it from a private person they wouldn't even get compensation, the land would just immediately be taken away from them.

Production has fallen. I was in charge of these plots in the early '50's and know what the production was. Claims of five tons per acre are not valid. The years when I was in charge of these plots, and these were the wet years, production was between 2 and 2 1/2 tons per acre. This was measured and can be verified by my reports to the Land Branch in 1953 and '54.

In summary, the production of crops in the Rafferty area to be flooded has been grossly exaggerated. The future is the area will continue to decline if nothing is done to evaluate the situation. At the present time there is a very limited amount of irrigation carried on in the flood area, mostly on the lands owned by the government. In the future, with a supply of water available, it will be replaced by 12,000 acres of irrigation.

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What is the situation of Wildlife? I cannot honestly believe what has gone on. At the present time they have confrontation between farmers, Wildlife, people in the government. To my knowledge, Saskatchewan Wildlife and Ducks Unlimited took the attitude that further drainage would result if the dams were built. Where were these people when 90 percent of the land in the area was being drained? This was done with the government's help and those organizations didn't object. Where were they?

Where is the area that is in contention? To my knowledge, it is land owned by farmers. They have been victims of previous drainage, in other words, they are victims of other people draining. Have the Saskatchewan Wildlife people met with these farmers to become aware of their problems? I believe they are trying to hold up the project and hope that the government will do something about this situation. It's a shame. After $3 1/2 million is being committed for wildlife mitigation, and I say that the Estevan Wildlife people worked with people on the project to get this kind of a mitigation, they want further concessions? Saskatchewan Wildlife wants further concessions over $3 1/2 million for mitigation for wildlife? Let's get realistic.

At the present time, the farmers in this area are in fact, in this province, are very concerned about what has gone on. Our organizations have had many requests to campaign for farmers all across the province to post no hunting signs. We have had those requests. Largely due to the positive stance our local Wildlife branch has taken on the project, our organization has not endorsed this. Hopefully, Wildlife will be apprised of the situation and face the facts. We do not need a confrontation on these projects. Surely we can work with Wildlife people for solutions to the problems. Without the co-operation of farmers, where would Wildlife be? At the present time wildlife in this area is suffering greatly for the lack of water. Where are the fish? Boundary dam, Nickle Lake, that's where you find them, two dams to conserve water. Is there mercury in these fish? I don't know. I haven't heard anyone complain about it. Ducks? 4,400 we are going to lose? You know, if you just consider what happens in a summer flood, the flood comes down in the middle of June or late June and these birds are nesting in the valley, so-called, the ones that will be wiped out. What happens to these birds in the summer flood? I have seen and my family have seen a mud hen in particular floating down the damn river sitting on her nest looking for some land, and that's a fact. What happened to the ground birds that don't float? They are completely wiped out. So where is the wildlife in a situation like that? Eight out of ten years in the '70's, what happened to the wildlife? Are you going to raise them under water?

Today I was north, we were at the river, we seen a few ducks on the river, but you know where we seen the ducks? A mile north. There is a shallow ravine right in the center of the mitigation area, right in the center of it, and there was I would say 500, 600 ducks there, I didn't count them, but that's where the ducks were. They weren't on the river. Maybe they realized that if they, you know, if they are down there maybe you will get one of these summer floods and goodbye ducks. Nevertheless, that's where the ducks were today.

So, you know, like I said here, 4,400 ducks will be lost due to the Rafferty project? Think again. Observations carried out counted less than 100. Where is the other 4,300, you know, but it's mitigated, and I think it was addressed last night, Mr. Chairman, and we came to the conclusion that the mitigation is good, and it will replace anything, any net loss. In fact I think the whole study says that they are obligated for no less than no net loss of wildlife.

Okay. The deer, hey. Okay. Having lived in the area all my life, I am rather surprised at the concern. 1946 I saw my first wildlife deer in the area. Where did it come from is a mystery to me. I don't know where they came from. However, they have adopted the area and concerns are being met because there is mitigation for wildlife, for the deer too. However, bear in mind that in severe winters these animals are unable to survive without help. It's not a natural area, and in severe winters they died right in my yard, and they got in my hay stacks and just raised heck with them and the loss was tremendous.

In fact there was one of the ranchers this year -- and I don't condone this -- but he looked out and he saw the deer in his hay stacks, stuff that he paid $100 a ton for and had to haul home, and he phoned the conservation officer and he said "hey", he said "get your damn deer out of my hay", so the conservation officer came down and he spread a little blood, or whatever it is that they use on the ground, and he said "that should handle it". Next morning the guy got up, the deer were back in his hay, and he shot six of them and phoned the conservation officer and he said "come get your damn deer", so the conservation officer, I guess, came out and raised a little bit of a fuss. Next morning he got up and the deer are back and he shot ten of them, bang. You know, I don't condone this action, but I can feel for the guy, because I had the same thing happen to me, only I didn't shoot the deer.

MR. MILLARD: Mr. Muirhead, we should probably move on.

MR. MUIRHEAD: Thank you very much, Mr. Chairman, but I haven't much more to say anyway, and the purpose of my brief is to bring to your attention the need for the building of the Rafferty-Alameda dams. Thank you very much for your attention.

MR. MILLARD: Thank you. We will take a 5 or 10-minute break.

(Meeting adjourned at 9:35 p.m.)

(Meeting reconvened at 9:48 p.m.)

MR. MILLARD: Can we come to order, ladies and gentlemen, please? The next presenter is Art Matte.

ART MATTE: Mr. Chairman, Mr. Burns, I asked to make this presentation on no one's behalf except my own, as a private citizen and a lifelong resident of Estevan and area.

I stress that what I have to say are my own views, and I do not claim to represent any memberships or groups of people from near or far. However, I might mention that over the past few years I have had many private conversations with people of this area on the topic of the Rafferty dam project, and I have found that the vast majority have views similar to mine.

I was born on a farm two miles east of Estevan in 1921, and except for 4 1/2 years of military service in 1942 I have lived my entire life right here. As a boy on the farm, I lived through the dry years of the 1930's and I witnessed firsthand what drought means. Also, since we lived so close to the valley, as a boy I roamed around the valley a great deal and became very familiar with the river that I learned to swim in. In fact, I recall my father showing me the spot where he found the body of his drowned younger brother who died in the Souris River in 1907.

Mr. Chairman, I state these facts only as background information about myself so that you will appreciate that my position of strong support for the construction of Rafferty stems from a lifetime of experience, not from any political or partisan motive.

I have watched, in the spring of the year, millions of acre feet of water washing down the Souris, which had flooded its banks with water from bank to bank of the valley flowing southeastward toward the United States, all of this water coming from the spring thaw of our precious accumulation of Saskatchewan winter snowfall. The tragic part about watching this water flow away from us was the knowledge that within a couple of months or so we would be crying for water. Mr. Chairman, I would like to suggest that it only makes sense that when we live in an area that chronically suffers from a shortage of water, we should try to hold onto what we get, when we get it, to have the use of it during dry times.

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Much of an issue has been made of the effect that these dams will have on wildlife. I am very concerned about wildlife. No one appreciates nature more than I do. Unlike a great number of self-designated wildlife protectors, I do not go hunting in the fall and kill them. I might also point out that anyone with any knowledge at all about waterfowl knows very well that ducks and geese look for water. These reservoirs will become a haven for waterfowl. As far as deer are concerned, I know from my own experience that in the dry 1930's there were none in this part of Saskatchewan. They have only been here for the past half-century or so, and they will quickly adapt to new water sources as they did and as they have in the past.

It has also been pointed out, and no doubt correctly, that the Souris basin contains many artifacts, some dating way back to prehistoric times, and some perhaps as recent as 4 or 500 years. I would like to point out that these ancient artifacts will not be destroyed, they will merely be covered with water, as they no doubt have been many times down through the ages. If some of our descendants 4 or 500 years from now decide that they wish to excavate, all they will need to do is let the reservoirs drain out.

There has also been reference to flooding of productive farmland in the valley. Those of us with knowledge of the valley know that this is utter nonsense. As boys, we used to have competitions to see who could walk the greatest distance across the valley stepping only on stones. This was in the area of the Rafferty site. Further downstream, south and southeast of Estevan, there are areas of fertile soil, but the proposed dam will protect this area from flooding.

As far as the environment is concerned, I suppose it's true that we would be creating bodies of water where none existed naturally before. However, I think that we disturb nature also every time we build a road or dig a basement for a house.

This area is blessed with huge reserves of lignite coal, and these reserves of coal proved very suitable for the generation of electricity. It seems that a good supply of water is also required for this purpose, and the coal is remaining in place for us to use as we need it. The water is here, but it keeps draining away on us. Let's hold onto it. Thank you, Mr. Chairman.

MR. MILLARD: Thank you, sir. Gerry Fichtemann?

GERRY FICHTEMANN: Mr. Chairman, board members, and citizens;

First of all I wish to thank you for giving me the opportunity in giving my views and research on certain subjects of the proposed Rafferty-Alameda dams. My name is Gerald Fichtemann, I am a resident on the Souris river and a nursery horticulturist at the business which I own under the name of River Bend Nursery. It has been a family business right on the Souris River, on the banks, for the past 57 years. I would really like to talk about the floods that my mother and father went through and what I went through for two years, but I spoke about that in the last brief, so I am going to abstain from that and talk about something else.

I am here to speak on the plant life report listed in the draft summary of the Initial Environmental Evaluation booklet of May the 31st, 1989. On page 38 of that book a list of flora is listed which I would like to remark on. I have gathered much information from the book Wildlife Plants of the Canadian Prairies which is published by the Canada Department of Agriculture in Ottawa, in which 1,200 species are described, and these are only prairie plants.

On page 38 Hall's -- I have the botanical names listed but I won't give them to you because it won't make any sense to you, I'll give the common name and they probably won't make any sense to you -- Hall's bluestem, that was not listed and no information given.

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Red three-awn; now according to the book, it is found in southwest area, which is the area of southeastern Alberta and extreme southwestern areas of Saskatchewan.

The Whorled milkweed; occasionally found on dry soil in the extreme southeast portion. The southeast zone includes the first Prairie Steppe and the Red River Parklands.

Side oats grama grass; this is occasionally found in the south central part of the area which includes the Souris basin area. It is found growing on dry prairie.

Buffalo grass; no information could be found.

Heavy-fruited sedge; this belongs to a group of plants called the Carex family. Ten species of the Carex family were listed, but the Carex gravida, which is heavy-fruited sedge, was not.

The same applies to the plant Carex tetanica, no listing, which was Rigid sedge in the book.

Small white lady's-slipper; the book says found, from Department of Agriculture, found occasionally in cool woods in northern and eastern areas of the Cypress Hills.

Engelmann's spike-rush; common in wet places and slough margins throughout the entire area from Alberta to Manitoba.

Prostate -- Prostrate spurge, pardon me. Sounds good, we might change it. It is found in waste spaces around buildings and on gravelly railway grades throughout the entire area. So this plant, as well as most, are not strictly confined to the Souris basin area. The plant is rare, but occasionally found from Swift Current to Winnipeg.

Bottle gentian, western; found in wet meadows and among bushes in the eastern part of the area which stretches from Winnipeg east along the southern end of Lake Manitoba.

White-flowered parsley, rare plant, that it is, but has been reported from dry hillsides in southern Manitoba.

Prairie false dandelion; in the Initial Environmental Evaluation it has been listed incorrectly. The correct botanical name is Agoseris cuspidata, which is rare, but occasionally found in southeastern and south central parts of the area, which is the Red River Parklands, the southwest part of Manitoba, and the southeastern part of Saskatchewan.

Small yellow monkey-flower; found in running streams in southwestern parts of area and Cypress Hills. Not common but plentiful locally.

Witch grass; this is a species of Millet weed found in the eastern parts of the area, which is Winnipeg east to the southern shore of Lake Manitoba.

Smooth cliff-brake; no information found.

White milkwort; occasionally found in dry ground along streams southern border of area, but natural habitat further south than area covered, which is southwestern Manitoba and southeastern Saskatchewan.

Tumble grass; found in dry gravelly places, particularly on railway grades throughout central southern section. At maturity panicale readily breaks off and rolls with wind thus spreading seed.

Gerry Fitchemann
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

After compiling this information I am led to believe that nearly all of these plants are not strictly located in the area where the proposed dams are to be built. In fact most of them are not even suitable for establishment in that kind of an environment.

Professor Harms at the University of Saskatchewan wrote an article to the Leader Post also. Also listed in his article were the plants, in his article, Bivurnum Lentago, which is commonly known as Nannyberry, and Celastrus Scandens, which is known to all of us as Bittersweet. He stated in the Regina Leader Post Friday, February the 13th that these plants were rare. I replied to his statement by phoning him at the university and he said he walked the whole river valley past Estevan. I told him that if he walked along the river banks he would have walked right through my yard plus the nursery area. He stated to me that he didn't remember even seeing the place. Our residence is right on the bank, I can fish from the windows. There are no fish, bullheads, that's all, and the gardens go right down to the river's edge, but he didn't see them. I do not think he did a very good three-year survey. As you were told, I contacted him about the statement of rare plants he mentioned, and that I could get him at least 1,000 Nannyberries and 1,000 Bittersweet whenever he wished, I'll ship them up to him, that's how rare they are. He never replied, but hung up the phone.

I also wrote a letter to the newspapers in southeastern Saskatchewan and told them the same story. I am pleased that the Viburnum Lentago and the Celastrus Scandens are not published in your draft summary of the environmental evaluation.

Finding this information on the plants made me proceed with more investigating on the fauna listed in the draft summary of the environmental evaluation. Not being well-versed in this field, I used the best information possible, and that is from the book from the Audubon Society, which is strictly western birds. All that's in this book is strictly western birds, and the Audubon Society are great people for the environment and great people for conserving the species of fauna. Everyone knows that this society is known as very-much respected in their knowledge.

We start with Baird's Sparrow; it prefers open country and grasslands. Breeds from southeast Alberta to Manitoba and south to South Dakota. Now I am positive that the Rafferty dam is not using that much space.

Burrowing Owl; prefers open country and grasslands. Breeds from British Columbia south to California and central Texas.

Cooper's Hawk; prefers forest and open country. Breeds across southern Canada and throughout the United States.

Eastern Bluebird; breeds from British Columbia south throughout the west and east to the Rockies.

Ferruginous Hawk; found in open country, grasslands, mountain cliffs, gorges and mesas. Breeds from southern Canada south through to western great plains to Arizona.

The Great Grey owl; prefers western coniferous forest. Coniferous forest, that's what it prefers. Breeds from central Alaska and central Canada south to central California. I think you will agree that where the Rafferty dam is to be built, there is hardly any trees, and certainly not a coniferous forest.

Loggerhead Shrike; found in open country, thickets and deserts. Breeds from Alberta to southeast Ontario south to Mexico and Florida.

The Peregrine Falcon; found in open country, fresh and saltwater marshes. People have tried to bring these birds into Regina to nest on top of tall buildings without any success. This should tell us that the birds are much smarter than man. If they do not like a territory they do not prefer, they will fly away to their own likeable territory. This bird breeds from northern Alaska and Canada south to the Rocky Mountains in New Mexico.

The Piping Plover; no information could be found.

Whooping Crane, the Whooping Crane; now we all know the story on the Whooping Crane. It is a fly-way for these birds enroute to Wood Buffalo National Park. This is a wading bird, a wading bird of fresh-water marshes. It feeds on small fishes, crustaceans and mollusks.

MR. MILLARD: Mr. Fichtemann, we are running out of time.

GERRY FICHTEMANN: Okay, right away. To summarize, it goes on and on, all the birds that the draft summary lists are birds that are endangered, threatened, or rare. However, this does not mean that the Rafferty and Alameda dams are going to pose any threat to these birds. These birds have a wide territory and these two dams will probably be a great benefit to some of these birds and hardly a threat to most of the birds that prefer open country.

I would just like to say that I am shocked that Environment Canada would even list these birds as they are not pertaining to this certain area, but an area three or four provinces wide and thousands of miles long.

In conclusion, myself, along with thousands of other people, are waiting for these projects to proceed. After 50 years of waiting, we feel that we have waited long enough. Let these projects to benefit mankind, to benefit the wildlife, and to ensure water for future generations of this area. Thank you.

MR. MILLARD: Thank you. Ernest Richter?

ERNEST RICHTER: How is it when people get up to the podium it always gets so hot. I am Ernest Richter, I am Chairman of the Souris Conservation Area Authority.

A bit of background on our authority, the Souris Conservation and Development Authority. The Souris Conservation and Development Area Authority was formed in 1950 in accordance with the Conservation and Development Act which was administered by the Department of Agriculture. The conservation and development area was formed to administer and maintain drainage channels constructed in the early 1900's under The Drainage Act to develop further drainage.

The existing conservation and development area is comprised of approximately 220,000 acres with an approximate assessment ranging from 7,000 to $8,600 per quarter of prime agricultural land in the Regina plains. Presently, there are about 80 miles of constructed drainage channel which are maintained by the area authority.

Our goals. Our area authority was conceived and has been operating since the early 1900's without a management control for the entire basin. This is a serious shortfall, as when there are floods in the Souris, it causes havoc and serious damage. Recognizing this, we have been requesting governments to consider construction of the Rafferty dam when the benefits to be derived by all users are great enough to justify the expenditure for the construction.

The resulting reservoir would thus provide flood control downstream. The resulting reservoir would serve as an abundant water supply for the cities of Weyburn, Estevan, and the towns and villages in between -- we forgot Sask. Power, don't turn the lights off on me -- a good, steady water supply all along the Souris through North Dakota and into Manitoba. Wildlife requires water. This aspect of our environment would be greatly enhanced. The reservoir also would support an abundance of game fish. A recreational park area could be established.

Federal interests. International waters. In the late fall of 1988 Manitoba was in dire need of water in the Souris. They requested North Dakota to release some water, which they did, and actually released more than was requested. This is a clear demonstration of North Dakota living up to their agreements. Had they not had the foresight in building dams to conserve water, there would not have been any water to release. We, in Saskatchewan, have been couch potatoes in not building dams to conserve our water for the supply in times of need and growth.

Migratory birds require water to survive and flourish. I have never seen a lake or stream that did not have migratory birds on or along its boundaries. We feel that the construction of the dams and the resulting water supply would greatly increase the fish habitat and the fisheries resources, examples: Lake of the Prairies and the Douglas dam. In times of high floods fish have been stranded in pools. I have found them three miles away from the main stream in holes eroded in the ends of culverts. These fish were white suckers and pike.

Rare endangered species. The Baird's sparrow. I did not know this sparrow until a few days ago when I discovered I have a host of these in my fields. Also, the Burrowing owl have numbers of nests in our area.

Problems. The area authority recognizes that both prime agricultural land and water are scarce commodities in Saskatchewan. We are often questioned as to why we would want to get rid of our water when it is so scarce. The answer is that surface water in our area covers many hundreds of acres of excellent farmland, and the heavy clay soils do not readily absorb the excess water. The very flat topography does not readily provide storage for the large volumes of water. While works have been constructed in our area to improve this situation, we find there has actually been little improvement because of unauthorized upstream drainage, Ducks Unlimited project in the adjoining R.M. Highway and road development, land development, have greatly increased the volume of water which now must flow through the area and our projects. Because the conservation and development area authority is an organized group, downstream people pointed to us as the cause of the flooding problems, although our projects do not cause their problems. We must comply with guidelines set out by Sask Water and Environment.

Recommendations. The Souris Conservation Area Authority wishes to make the following recommendations dealing specifically with the problems in the Souris basin. That the government consider construction of the Rafferty dam as the benefits to be derived by all users are great enough to justify the expenditure for construction;

That the government administer and pay for the development of drainage works and channel improvement, particularly on natural channels such as the Souris River, since those problems are too large to be resolved by groups such as ours;

That zoning regulations be implemented to present further floodplain development in both urban and rural areas which have been subject to flood damage;

That consideration be given to establishing a watershed commission to manage water resources development within a particular watershed. Adequate funding for all development must be provided. Local and provincial interests must be represented on these commissions.

The benefits. Agriculture is Saskatchewan's largest industry. To maintain that status, money must be spent to conserve valuable farmland. The monies spent on drainage and irrigation will be recovered over future decades as farmland is used. Farmers will be able to farm more efficiently and increase productivity as in the Lethbridge and Taber areas of Alberta. In the short-term, money will be spent on construction and maintenance of water development projects. Much of this money would be spent in smaller rural communities. Expenditures on flood damage claims from all sources could be reduced. Storage of water in suitable areas would encourage industrial development.

On behalf of the Souris Conservation and Development Board I urge you to recommend completion of the Rafferty and Alameda projects. I thank you.

MR. MILLARD: Thank you. Glen Peterson?

GLEN PETERSON: Mr. Chairman, Mr. Burns, ladies and gentlemen; I wish to make this presentation on behalf of myself, Glen Peterson, who has lived in this community since 1925, and I have been in business in the City of Estevan for 51 years.

I can well remember the droughts of the '30's. Had the Town of Estevan received their water supply from the Souris River at that time, the town would not have had an adequate water supply. The town received their water from Long Creek, which was fed by springs. The Souris River has a history of little or no water during the dry years, and during the wet years, a history of considerable water and flooding and damage to residents and properties in the Souris basin.

Had we had recently flood years like 1969, 1970, 1972, 1974, evidence would have been shown that the Rafferty dam would have been desperately needed if those flood years would have been back in the 1980's. I have seen the valley south, on 47 highway south of Estevan, flooded with 3 to 4 feet of water over the entire valley, and should we have a flood like 1948, the south side of Ambassador Trailer Court would be flooded, and that is just down the hill on the 47 highway south. During the flood years, many thousands of dollars of damage has been done to the Village of Roche Percee and personal property in the valleys downstream.

I can well remember Long Creek before the Boundary dam was built. There was very little wildlife there at that time, and fish were not in abundance. There was no recreation. No. Mr. Chairman, I can tell you since Boundary dam has been built, there is an abundance of wildlife, there is an abundance of fish, waterfowl, and recreation.

The Boundary dam power plant generates approximately 50 percent of the power required for the Province of Saskatchewan. Last year, in 1988, the water level dropped in Boundary dam to a dangerous low level, placing the Boundary dam generating plant with very little water for cooling. Should the plant have not been able to operate because of no cooling water, Mr. Chairman I ask you, what predicament would the Province of Saskatchewan and its residents be in, and the people of Estevan?

This past spring there was no runoff on the Souris River at Estevan, nor was there any runoff on Moose Creek at Alameda. Fortunately for the people of Saskatchewan, there was runoff on Long Creek, thus filling the Boundary dam reservoir to approximately 70 percent capacity, ensuring that Boundary dam generating station can operate safely for a while in the future.

The Canada-Saskatchewan-Manitoba Souris River Basin Study agreement of 1974 was mainly studied for the problems of flooding of the Souris River in the 1970's and the previous flooding years, with considerable flooding damage in Saskatchewan, North Dakota, the Province of Manitoba, causing destruction of many homes and farmlands. The cost of this study was $830,000; the Federal Government of Canada committed $415,000 or one-half of this study; the Province of Saskatchewan committed 29 percent or $238,000; the Province of Manitoba committed 21 percent or $177,000. The federal government committed an additional $220,000 for studies on the international aspect of the Souris River.

In attendance of signing this agreement on October 28th, 1978 at Estevan were The Honourable Jean Sauve, Minister of Environment Canada, Honourable Neil Byers, Minister of Environment, Saskatchewan; Honourable Sid Green, Minister of Mines and Resources, Environment Manitoba; Grant C. Mitchell, Deputy Minister, Environment Canada; Mayor Peterson; City Council; Reeve and Council, Rural Municipality of Estevan; and other interested citizens.

Mr. Chairman, the reason this study was being signed here was the previous floods in the '70's on this Souris River, and I think this alone should speak for itself, that after all of these years that -- and now the dam is started and now it is stopped. Mr. Chairman, the reason the study was being done was the problem of flooding on the Souris River with an abundance of water, and dry years with no water at all. Mr. Chairman, the Rafferty dam has been studied, studied, studied and studied.

In 1932 I can remember very well when the delegation, the government officials come up from North Dakota, or the officials of Minot, the Province of Saskatchewan, Estevan, and the consensus was to build a dam on the Rafferty. Now 57 years later, and I am 57 years older, and we got it partly started and now it's stopped, and little did I realize, when I was 14 years old at that time, that I would be here tonight fighting to get this Rafferty dam on stream.

The Rafferty dam, in the past, was mostly for flood control and to preserve water, but now it is needed for the generation of electrical power and to ensure future supplies of power for the Province of Saskatchewan and for the cooling water for the Shand power plant, and also to divert water, if needed, to the Boundary dam generating station reservoir. In 1988 SPC officials confronted the Estevan City Council urging them to ration water in the City of Estevan. Had there been no runoff in the spring of 1989, statistics would show that the Boundary dam generating station would have to curtail up production in the spring of 1990. That would be a very sad day for this province when this power plant down south here generates 50 percent of this power for Saskatchewan and we have got to try and fight to get some water in order to keep this Saskatchewan going.

Recent contracts were signed with the mining companies for the coal supply for the next 35 years for the Saskatchewan Power Corporation. We now need the Rafferty dam not only for flood control, but for the future supply of electrical power for the Province of Saskatchewan, supplied from the Boundary dam electrical power station and the Shand electrical power station. Mr. Chairman, I thank you, and ladies and gentlemen.

MR. MILLARD: Thank you. George Green?

GEORGE GREEN: Mr. Burns, Mr. Millard, ladies and gentlemen. In case you are not aware, my name is George Green. I have lived here for a little longer than Glen Peterson, 75 years.

I remember, and I am not going to take any of your time to tell you too much about this, outside of the fact that my tenure in the Souris River valley started in 1918. My father bought or built a dance hall where river park is now, and from that time until 1957 when I sold it, we endured some reasonably big floods. When I say big floods I mean floods that reach 17 feet over normal. In 1927, 1943, 1948, 1969, all these years we had thousands of acre feet of water going down the Souris River, we never got any use out of it at all. We always had people say "why don't we do something?" In 1932 I was chairman of the Water Users Committee in the Souris valley that Mr. Peterson was just talking about, and at that time we tried to get a dam.

Now I am going to tell you one thing, and I hope you people will listen carefully because this, I think, is important. I am not going to repeat what you have heard from all these eloquent people that talked about Boundary dam, and Rafferty dam, and the Alameda dam. They are very good, they know what they are talking about, and what they have told you is true. All I want to tell you is this; that let us not make the mistakes that we made in the past.

Now without stepping on anybody's toes very hard, with my apologies to Mr. Baldwin of the PFRA and another young man back there that runs the Ducks Unlimited or whatever that is there, these mistakes were made in the Souris River valley when they used what was called hay flooding dikes, where they flooded the dikes, the area of the land to let the Souris River, in high water, flood this land and become hay lands. But the only trouble is that they built the dikes all right, but the gates were four feet higher than the river so the water wouldn't run back. Now all you have to do, drive up the valley, they are still there.

Now talking about ducks, I am a hunter, I have enjoyed hunting from the time I was 15 years of age. We never at any time, from the time I started hunting until ten, or eight, ten years ago, did we ever see any geese in the Souris River valley or surrounding area. Since we have had Boundary dam, geese have come in the thousands. I want to show you a picture. There is one with thousands of white geese at a farm called Rodney Pandolfo, which is between Portal and North Gate. Thousands of geese. Where did they come from? They came from the water of the Souris River. I'll just show that to you.

MR. MILLARD: Thank you.

GEORGE GREEN: All I would like to tell you is let us not make any more mistakes, let us do what we should have done a long time ago. The chap who looks after the ducks and things back there tells me we are going to lose 4,300 birds from moving the habitat. Now if that is so, I can remember when the sky was black with pintails and mallards. During the depression we didn't have any water so we hunted on the river.

All I want to leave with you is this; you can't raise ducks without water. Thank you very much.

MR. MILLARD: Thank you sir. Wendy Bell?

WENDY BELL: My name is Wendy Bell, Vice-President of the Estevan branch of the Saskatchewan Wildlife Federation. I represent the 500 members of our branch. I am here to make certain that the board is aware of the Estevan branch's position on the Rafferty-Alameda project, also to present our views on the Initial Environmental Evaluation done by Environment Canada.

MR. MILLARD: Excuse me for just a minute. Is Ms. Bell being heard at the back? Can you move the microphone a little closer? Thank you.

WENDY BELL: I appreciate this opportunity to express our thoughts and comments. Mr. Chairman, board members, ladies and gentlemen; the reason for my presentation today is to let the federal Minister know that we feel the draft summary on the IEE, as presented or done by Environment Canada, is incomplete.

One of the main concerns was upstream drainage. This is a province-wide problem that has been brought into the forefront since the inception of these megaprojects. We feel that no upstream drainage into the reservoirs is a must. The loss of wetland habitat must be stopped in the upper reaches of the Souris basin watershed. We voiced our concerns to the Souris Basin Development Authority and Premier Grant Devine. They have given us verbal assurance of no upstream drainage into the Rafferty and Alameda dam reservoirs. The government has also held hearings on a discussion paper on soil, water, wetlands to deal with upstream drainage province-wide, which we feel is a positive step as long as it is acted on.

The next area of concern is wildlife habitat loss. While we recognize the loss of land to the inundation, we also believe that habitat is water-based as well as land-based. With the inundation of the river channel and bottom land, we agree there will be loss of nesting area for migrating birds plus loss of habitat for the deer population and upland game birds, which is stated in the IEE. The IEE failed to include the mitigative measures set out by the Souris Basin Development Authority. It is a proposed $2 million of expenditure for the purchase of land and creation of habitat lost to the reservoirs. This would include the purchase of 31 quarters of land which are to be planted to trees, shrubs, grasses, and fenced to stop any grazing of livestock. There are tentative plans for diking of the coulees to create adequate nesting cover for migratory birds. These coulees will be filled with runoff water, and will not have the pollutants that would be found in the Souris River. It was also stated by the Souris Basin Development Authority that there is going to be wetland development above highway 705 south of Macoun and Hitchcock, with proposed wetland activity downstream of Rafferty to Highway 18, which would include approximately 500 acres.

Over and above these mitigative measures, the Souris Basin Development Authority has entered into an agreement with our branch. This agreement states that the Souris Basin Development Authority and the Estevan branch will co-operate in preserving downstream oxbows created by channelization, creating wildlife habitat along the Rafferty reservoir and maintaining islands created in the reservoir.

It was also stated in the IEE, on page 25, that the waterfowl production of breeding mallards would be reduced by 10 percent aas presented by the North American Waterfowl Management Plan. If this was the case, why have the North American Waterfowl Management Plan not allotted any money for this area to enhance the breeding stock? Saskatchewan Wildlife Federation told us that our area produces so few birds and our habitat is so poor that it would cost too much money per duck to warrant enhancement efforts on behalf of the North American Waterfowl Management Plan. the IEE stated that with the development of a large body of water, it would cause an increased number of birds to be bagged during the hunting season. I disagree with this statement. What I feel it would do is cause a thinning effect of concentration of birds and hunter alike.

The next area that we were concerned with was downstream channelization. This would take in 16 kilometers from the dam site to the Shand power plant. We realize that this is necessary in order to accommodate water flow for North Dakota. With this channelization, there are oxbows that can be diked, they will maintain water year round, and provide suitable habitat for all wildlife. This is stated in our attached agreement with the Souris Basin Development Authority. We recognize the effects of Saskatchewan retaining our 50 percent of the water resource that we now let flow south, but on the other hand by not retaining our water, the effects on Saskatchewan are great. This past winter, Dead Lake has suffered a full winter kill due to no runoff and arid conditions for the last three to four years. If we retain our water, disasters like this may be eliminated. With the dams in place, we know there can be a mercury buildup in the fish. However, the IEE states that this is not a permanent problem. According to the SBDA's EIS, the mercury content should be no worse than any other reservoir in southern Saskatchewan. In the interim, our fish will have the chance to build up. Because Estevan's sewage effluent is being piped into the Shand power station and not being returned to the Souris River system, it can be nothing but beneficial for the fish in the Souris River. We feel that the Rafferty dam can be very successful for the fish and sport fishermen similar to that at Boundary dam.

Lastly, the effects of the dam on endangered species. Our attention will focus on the ferruginous hawk and the Baird's sparrow. We feel that with the inundation of the dam, that nesting boxes would be sufficient to cover any loss in nesting places for the ferruginous hawk. Also, the 50 quarters of land to be mitigated for the loss of PFRA land should be sufficient to allow the hawk's foraging potential to feed themselves and their young. In regard to Baird's sparrow, the mitigation of 50 quarters of PFRA land, and the 31 quarters of wildlife mitigation, and the tree and shrub planting program that is already in progress should allow adequate nesting cover and habitat for them.

In closing, I would like to stress the efforts put in by the Estevan branch of the Saskatchewan Wildlife Federation towards satisfactory mitigation on wildlife for this project was made possible by the open-door policy of the Souris Basin Development Authority. Our branch feels that as long as mitigation is capable of covering the loss to wildlife in Saskatchewan, we have no opposition to these projects.

MR. MILLARD: Thank you. Charlie Gessner?

CHARLIE GESSNER: Mr. Chairman, I am here to offer my personal support for the Rafferty-Alameda project, and to urge that every possible effort be made to recommence the work at the Rafferty site before any more of this construction season is lost.

Every day we are losing more money, both at the site and in Estevan, and with that loss in time this community is losing confidence in its future. As manager of a national catalogue store and owner of a fast food store, I can assure you that withdrawal of the Rafferty licence has had a tremendous negative impact on the commercial sector of this City.

Sales are down by more than a little, and the timing of these drops correlate precisely with what happened to Rafferty. Within the business community, confidence has plummeted. Whereas new outlets had proposed openings, those plans are shelved indefinitely. Expansions to existing enterprises have been cancelled. Just look at the empty buildings on 4th Street or the empty spaces in our mall. New staff have been laid off or moved to part-time. According to a recent Canada Employment and Immigration Commission article published in the Mercury, employment is sluggish in our local economy.

Estevan has a strong commercial service retail base on which to build, and a highly effective group of entrepreneurs to initiate that growth. I can assure you that the economic spinoff from Rafferty-Alameda would have been responded to locally. It is not our intention to see any more economic leakage than is absolutely necessary, and we are prepared to invest heavily in meeting the purchase requirements of the project.

We also are confident that we can compliment and capture the maximum return on investment in the recreation and tourism infrastructure that is proposed for the project. The business community has been damaged by recent events. Confidence has to be restored as soon as possible, or we will lose the momentum and enthusiasm that is so essential to ensure maximum local benefit for major project investment.

Please remember that people are part of the environment as well, so let's get on with the job. Thank you.

MR. MILLARD: Thank you. Dave Batters?

DAVE BATTERS: Thank you, Mr. Chairman and Mr. Burns. Ladies and gentlemen, my name is Dave Batters, I am 19 years old, I was born in this community and I have lived here all my life. I am here today as a representative of Estevan's youth, and feel that it is my responsibility to make sure that the board is aware that the youth of this City support the Rafferty-Alameda project.

Estevan's young people see Rafferty dam as a step toward a brighter future, and to a large extent the youth are using this issue to evaluate whether their elders are committed to that brighter future, or merely committed to playing politics. I hope and pray that the message in Mrs. Muirhead's poem is really taken to heart about give to your younger ones. I certainly don't want to be here when I am Mr. Peterson's age or Mr. Green's age asking for the Rafferty dam.

Opposition groups to this project claim that they echo the concerns of Estevan citizens, but obviously haven't been listening. Many opponents are using their grave concern for our environment

Dave Batters
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

as a front behind which to hide their political motives. People who have legitimate concerns for our environment support these projects.

When it comes to the Souris River, nature provides us with no happy medium. To quote the Premier of our province, it's flood or it's mud. We who live in the Souris basin certainly understand the devastating implications of these two words.

The people of Estevan have expressed the need for effective water management in order to combat nature's threats of flood or mud. This project will allow us to control the seasonal flow of the Souris, thereby putting an end to the days of flood or mud, and leading to improved water quality and quantity. We will be able to control flooding during spring runoff, and prevent stagnant water at thehot Saskatchewan summers. Last year, during one of our worst droughts since the '30's, wildlife was born into a chain of stagnant, algae-filled puddles without a chance of escaping predators. Rafferty dam will enable us to flush out these dead pools and provide wildlife with healthier water.

The proponents of Rafferty dam, which will be a slowly-rising reservoir, are firmly committed to no net loss of wildlife as the price to pay for this healthier water, whereas a flash flood not only snuffs out our wildlife, but also the entire livelihood of those people living along the riverbed.

Unless you are on a save-the-insect campaign or a save-the-frog campaign, as are some representatives of the Natural History Society, you should support the building of these reservoirs. Certainly, it would be such a tragedy in southeastern Saskatchewan, to wipe out a couple of mosquitos too.

What makes this project so attractive is the combination of benefits we will receive. Rafferty dam will also provide the cheapest, most sufficient coolant needed to operate the Shand Power Station. Other alternatives, such as air cooling or buying out out of province altogether, which has been dubbed "the Manitoba purchase option" are simply not practical, and the ratepayers would suffer the consequences. The Shand station is the first station in Canada which is designed to significantly reduce acid rain levels. Furthermore, none of the effluent water used by Shand will be returned to the Souris, which will definitely help clean up our river. Sask Power has demonstrated its concern for our environment and expressed its need for the Rafferty reservoir.

It is the law that Canada is entitled to 50 percent of the flow of the Souris River. We in Saskatchewan are the only people in Canada who can ensure that we get our fair share, and at the same time work towards improving water for our neighbours downstream in North Dakota, and east in Manitoba.

David Orchard a representative of Concerned Citizens on Free Trade is convinced that these proposed projects are a ploy by the United States to ensure the exportation of our water. Mr. Orchard seems to be just a little bit confused. There is water flowing to the States as it is, and this project has been designed to obtain our 50 percent cut. Without realizing it, Mr. Orchard makes a good case in favour of building these reservoirs.

We in Estevan ask and expect that the people of Saskatchewan support our plea for Rafferty dam. We are not in this fight just so that our golf course will look a little greener, although that's important too, the project does have a lot of great recreational benefits, including a new provincial park following the relocation of the Dr. Mainprize Regional Park, but that is not what this is all about. We are fighting for protection from flood and mud and fighting, also, for healthier water. If we are denied this dam I only hope that when the next flood hits, which according to Mr. Hood is two out of every ten years, I hope that the opponents to the project are among the first to lend a hand in filling sand bags at the riverbed.

It's our water and we desperately need it. Estevan also desperately needs the economic spinoff as a result of the job creation of this project. Mr. Panteluk would have to go out and dig for Indian relics for a long time if we don't get this dam. As Dennis Moore stated, he stocked his store, as many businesses did in town, based on the fact that this licence was issued, and expected this dam to go ahead. Instead, we have had the rug yanked out from under us. Bill Goodmanson mentioned that the human species and our way of living is threatened. We are going to be in the IEE pretty soon.

Rafferty dam is not the product of political patronage, but the product of a lot of good common sense. It's time that studies and meetings cease and machines begin to move again. It's time that a good idea on paper becomes a reality, because a paper dam does not hold water with the citizens of Estevan. Thank you very much.

MR. MILLARD: Thank you. Dan Sidloski?

DAN SIDLOSKI: Mr. Chairman, Mr. Burns, I don't know if your seat is as sore as mine, but I am sure you will be happy when this night is over.

Mr. Chairman, I am happy to be able to take this opportunity to express my concerns regarding the Rafferty and Alameda projects. It really bothers me that this project has been stopped. In a land that's as dry as this one, we need to use any means at our disposal to store the water that is available to us.

I operate an 1,100-acre farm at Ralph, Saskatchewan and also own three quarters of native pasture with the Souris River running through two of those quarters. I have ranched on my father's pastureland on the river since I was about six years old. I can tell you that nothing could have made me happier than when I heard that the Rafferty dam was going to be built. I understood, at that time, that the dam was going to back water up to Nickle Lake reservoir, and that meant that my pasture was going to have a constant source of water.

During the 1980's, there were many years that I had to be concerned whether there would be enough water in the river to be able to water the cattle that grazed in our family pastures. In total our family looks after nine quarters of pasture, which includes well over five miles of meandering river, and it's just a shame to think that with all that river, we had to contemplate hauling water for stock. In fact, during 1984, '85, and '88, the river was so bone dry that we actually took our car and drove in the riverbed.

Now my point in my whole presentation is to kind of paint a microcosm and show you what happens on my farm, and demonstrate that that same kind of a thing happens on a bigger area, on a bigger scale, with a river. In fact, to talk about whether or not we could water our cattle, normally our deer populations on that nine quarters of land, and I know it very well, would range between 20 and 40 head of deer. Those deer come up to my yard and feed in my crops, and we usually keep kind of a track of how many deer are around, and I can tell you that since the land has got -- this location has been so dry, in 1988 for instance I might have missed a deer, but if there was more than three, that's all there were, and so we are down from a wetlands situation where we will have wet years where we can grow, you know, 30 to 40 head of deer, down to a situation where we can only accommodate two or three.

My farmhouse is situated on a small creek that runs into the Souris River. Directly behind my house is a small dam. If it were not for that dam I could not water my lawn and garden, nor would I be able to raise stock. I have a shallow well which provides our drinking water, but during the last five years that well was hardly able to supply us with enough water for human consumption. The situation I have outlined for you here has been a common one for many of the farms in our part of the province during the past nine years.

Beyond the farm, many of our small communities are scrambling to drill wells or import water in order to survive. There is no question, Mr. Chairman, that water is the life blood of any civilization, and nowhere is that more true than in our desert environment. If the greenhouse effect is a reality, as is suggested by scientists around the world, then our area may become even more like a desert, and wouldn't those who stopped this project be condemned properly if, 15 or 20 years from now, we were to experience the 1980's on an ongoing basis? Because I live directly on the Souris River and have ranched and hunted there all my life, I feel I would have to make some comment on the Wildlife Federation and Ducks Unlimited. I believe that these two groups have misled the public and are basically, well, they are responsible for stopping the project. Canadian Wildlife Federation was quoted on radio and in the print suggesting that up to 5,000 deer were going to be displaced from the Souris River valley. These numbers are absolutely incredible. They are monstrously overstated. I have been familiar with the entire valley all my life, and I can assure you that on the good years 500 would very likely be high. And I am also aware that during the winter the deer population was actually counted, and I realize, as I pointed it out, that the numbers fall on drier years, but the number that was counted was 150, so that's a far cry from the 5,000 that were mentioned by those, by the Canadian Wildlife Federation.

It's exaggerations such as this, though, that have caused people outside our area to become actively involved in fighting a project which has so many potential benefits to the local area. I feel that it is a great injustice when the good of a community can be stopped by an advocacy group who do not live within that community. I am fully aware that the Estevan branch of the Wildlife Federation is fully in support of this project. I believe that this is because they are local people that are not only closely involved with the habitat development, but they can also see the potential for local development and are looking at more than simply an advocacy issue.

Just to touch for a minute on dams and ducks, I mentioned before I had a small dam behind my house, and in the last few years since I have been living there I noticed that we constantly have 20 to 30 pair of ducks raising young on that dam and even in 1988 when the water level was terribly low we still had several, several families of ducks raised on that dam, and I would just extrapolate from that to say that the same situation is certainly going to exist if we were to have the Rafferty and Alameda projects completed.

As far as farming goes, Mr. Chairman, I am a strong advocate of two things on the prairies; trees and water. I am doing my best to encourage and plant shelterbelt trees to improve our prairie landscape and environment, and if it were up to me and I were in charge of water management, I can assure you that the Rafferty dam would have been built a long time ago. But the fact is we have to rely on our governments to manage our water, and so therefore I encourage you to store our water while it is here, because when it's gone that's when we need it.

I would just remind you that my farmstead would be worth very little and basically nothing without the dam that exists behind it, and I suggest that southeast Saskatchewan would be worth a great deal more to both man and wildlife if Rafferty and Alameda projects were completed. I thank you.

MR. MILLARD: Thank you. Frank John? Is Frank John present?.

FRANK JOHN: Most everybody here, knowing me by reputation, will realize that we are getting close to the end of the presentations.

Mr. Chairman and Mr. Burns, my name is Frank John and I am a resident of the City of Estevan. The ad in the paper reads "make your contribution to the Rafferty-Alameda project discussion". Most people don't respond to such an invitation for a number of reasons, they are not interested or they are too timid, or they don't feel qualified, or they don't think anybody is going to pay any particular attention to what they have to say in any event. I am certainly not qualified to make statements backed by professional or scientific evidence, and for these reasons I am not sure anybody is going to pay any particular attention to the comments I have to make. Nonetheless, I would like to suggest that the feelings I express represent the thoughts, I feel, of a silent majority who can only express their concerns based on what someone else has put in front of them. We can only try to sort out the good from the bad things that are put forward by the experts, who seem to have a wide difference of opinion themselves, and that doesn't make our job any easier.

I did what you asked us to do. I got hold of the initial environmental draft summary and pored over it to see if I couldn't get some help in making a determination that ackowledged both sides of this controversial proposal. I feel that I probably speak for most people when I say that with the announcement of the Rafferty-Alameda dam project I was immediately pleased, and of course never gave any, or very much thought, to the negatives that have since come to the fore. These concerns, expressed so eloquently through all the media, have given people responsible for the project a reason for review, and people like myself an opportunity to see the other side. I could go through the summary mentioning many favourable and unfavourable results of putting the dams in place, but that's why the summary was published so people could read for themselves. However, many don't, and I have selected from it.

In the executive summary of adverse environmental impacts we are told of the adverse effects on waterfowl production, and that complete mitigation of waterfowl impacts is possible.

We are told that reduced flows entering North Dakota would result in a decline and possible elimination of the fish population in Lake Darling, and while mitigation options are limited, they could include provision for a fish refuge within the existing lake.

We read that the project would result in a loss of riverine habitat in Saskatchewan, but that a no net loss of productive habitat in the province is possible.

In Manitoba, the project would result in the loss of productive fish habitat and compensation, by means of replacement habitat for this loss, would be required.

Community pastures would be lost and full mitigation would be achieved to replace it with pasture lands of equal productivity.

The project, we are told, would have been an adverse effect on rare and endangered species of plants and animals, namely the hawk and five plant species of national significance, and we heard about that from Gerry. We are told opportunity here for mitigation would be limited.

Regarding navigable waters, impacts and concerns for public safety can be mitigated through design and construction of proper marking of hazards to navigation.

These were the significant impacts.

Coverage of moderate impacts included the subjects of downstream flows, international water quality, mercury in fish, and the reduction of habitat for the Baird's sparrow. All of these were addressed, and we are told that mitigation could be handled through changes to the upstream refuge operation plans and co-ordinated water releases through multi-level outlets where mercury levels in fish and saving of the habitat of the Baird's sparrow were concerned. Further studies, we are told, are required to protect the public and confirm the extent of loss of habitat. It should be noted that the adverse effects of the project that I have mentioned were dealt with to a large extent by mitigation. Some were not dealt with because of information deficiencies, and it would seem to me that these are the areas of recommendation that these hearings will be addressing.

Frank John
Estevan, Saskatchewan
Saturday p.m., June 24th, 1989

The things that I am not reading or hearing about are on the plus side of the project, and it seems to me also that no project is or should be put down simply because it does not answer or satisfy all the questions and objections that are raised, but rather the negatives are weighed against the positives, and in this case we are talking of flood control, the addition of needed power generation, the potential for land irrigation, and of water recreation. I don't believe anyone in this room would argue the fact that those are pretty powerful arguments for the project, and they are the reason I wanted to say they must weigh heavily in reaching a decision as to where this project is going.

In a previous submission I stated that this project could be the beginning of a heritage for a number of our young people. Somehow it seems to me, without meaning to put down the importance of the issues that have been raised on this subject on this project, that the movement of people away from their home is more important than the displacement of the Baird's sparrow. We have been assured that many or most of the problems associated with this project have been or will be addressed and would be accommodated through mitigation, or otherwise dealt with by further evaluations and studies and recommended actions.

I am not suggesting that, nor does the summary say, that they have the answers to all the questions. In fact I doubt any project proceeds without some drawbacks that simply have to be weighed against the benefits the project will bring, and that is clearly the issue before us as I see it today. My observation is that the proponents of the project were overzealous in their haste to get started and they got slapped on the wrist for it. One has to admire the tenacity with which the opposition to the project have stuck to their guns, and much good will come out of those representations, but only if we do not permit them to scuttle the project entirely.

I strongly urge that the recommendation of this hearing would urge a course of action that would read somewhat like this: Environmental effects are understood and can be mitigated and/or studied during the course of construction, recommendations from these studies to be in place by completion of the project.

As I said in a previous submission, I sincerely hope that all the concerns of this project are considered. I cannot imagine, from what we have before us today, that there is no room for movement from the posture that stops the project to a position of proceeding with the studies necessary to satisfy the complaints while construction is in progress. Whoever decides the destiny of the Rafferty-Alameda project ought not to be insensitive to the good that will be impacted on our way of life, and should be ever mindful that the creation of an administrative body with longer-term responsibilities must follow. It is the feeling, I am sure, that it would be inappropriate for this body to be formed before the direct input of the parties appearing before these hearings and the subsequent decision to proceed with the project and follow through the various mitigative and monitoring activity.

I would like to take the liberty, because I think I am very nearly the last one on the program, to extend on your behalf, and my own behalf, thanks to these two gentlemen for bearing with us for as long as they have, but at the same time I am doing that I would hope that they have seen the dedication that you people, who have sat here for as long as you have for as many days as you have in front of them, and demonstrated to them the kind of dedication that you have in a project that we feel is good for everybody. Thank you.

MR. MILLARD: Thank you.

CHAIRMAN: We will take about a five-minute or so break, and then return and see if there are any questions.

(Meeting adjourned at 11:05 p.m.)

(Meeting reconvened at 11:11 p.m.)

MR. MILLARD: Could we come to order, ladies and gentlemen? Earlier this evening we indicated that following the presentations, persons could ask questions of the Environment Canada scientists, and I would now ask if anyone has any questions of them. If you do have a question, would you please go to a microphone? I can see one here and one over here. There may be others, I am not sure, but please use a microphone so that everyone can hear your question. Are there any questions? I know the hour is late. I take it that there aren't.

Well in that case, ladies and gentlemen, let me say thanks very much for coming out, we appreciate your participation and we enjoyed hearing the briefs, and we will give them full consideration. Thanks again. Good night.

(Meeting adjourned at 11:13 p.m., Saturday, June 24th, 1989)

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(Meeting commenced at 6:35 p.m., Monday, June 26th, 1989)

MR. MILLARD: Good evening ladies and gentlemen. While we are waiting to commence the proceedings tonight, perhaps people sitting in the back and on the raised portion might come forward. There are lots of seats in the front, probably hear better, see better. Can I entice you forward?

Well let me say welcome to everyone for the Melita meeting on the Rafferty-Alameda project. This is the fourth meeting that we have held. We have held previous meetings in Regina, Oxbow, and Estevan, and this is the first meeting in Manitoba.

My name is Vern Millard, and I come from Calgary, out of the area, knowing nothing about the Rafferty project until I got here, learning a little bit since I have been here, and I presume the reason I am here, well I know the reason I am here is to moderate the meetings, and I presume the reason I have been asked to do this is because of non-involvement in the process up until the present time.

In my previous life I had a fair amount of involvement in public meetings, and they are a very useful and convenient medium for obtaining the views of people, the public, in terms of projects, particularly where there are a mixture of views. Certainly the Rafferty project is one in which there are a mixture of views, and it's important for all of us to have an opportunity to express our views with respect to a project such as this.

In dealing with situations where there are a large number of people involved that have views and to ensure that all of the people have a full opportunity of expressing their views, because that's the whole purpose of the exercise, we really need to have some rules so that everyone can have equity and full opportunity, and what I would like to do is to run through what those rules will be for this evening and what they have been for previous sessions.

First of all, the meeting is primarily to discuss the Initial Environmental Evaluation that has been prepared by Environment Canada, and as you know from reading their document, there are six areas that have been designated as being matters of environmental impact, potential environmental impact, from a federal point of view;

- international waters;
- migratory birds;
- fish;
- federal lands;
- rare and endangered species; and
- navigable waters.

A second rule relates to how we should all treat the people who are making presentations. We have a schedule which is available to everyone, and we will be following that schedule, and secondly we will ask, as I think everyone has been advised, to limit their comments to ten minutes. Those that can't express everything they want to say within that ten-minute period can file a document with Environment Canada following the meeting any time until July 10th, and that document will be treated the same way as if the comments were made at this meeting.

A third item that I would like to mention in terms of procedures relates to how we treat the people who are making presentations, and we have to have respect for them of course, and I would expect or ask that we not interrupt those people who are making presentations and let them make them in full opportunity.

The proceedings are being recorded, and a copy of the transcript will be available and will be part of the public record.

Lastly, I would ask that there not be any smoking in the room to provide clean air for all of us.

I would now like to ask Bev Burns to comment on the process that's involved in this whole exercise, and Bev is the Director General for Environment Canada for the Western and Northern Region of the Conservation and Protection Branch.

MR. BURNS: Thank you, Vern. Before I commence, Vern is a very shy person. Vern, for many years, was the Chairman of Alberta's Energy Resources Conservation Board, a very important job as you can appreciate, and is currently Chairman of the Workman's Compensation Board, so that we have a gentleman here who has a lot of experience in this kind of activity and is well-recognized, at least in Alberta, for his capabilities.

On behalf of Environment Canada and other participating federal departments or agencies I would like to welcome you to this public meeting concerning the Rafferty-Alameda Initial Environmental Evaluation. I propose to talk a bit about what brought us to today, the review process that Environment Canada has been following, and a look at what might happen next.

As you know, water management in the Souris basin has been studied for many years. Ever since settlers moved to this area there have been discussions about how to control and make the best use of what could be described as an unpredictable water supply. Although I am currently from Edmonton, I am not totally unfamiliar with this problem. I was born in Saskatoon, I have lived in several places in the southern prairies, and that includes the three prairie provinces including Brandon, Portage and Winnipeg in this province, I spent some time on the family homestead near Drake, and that's in Saskatchewan and most of you probably know that area, and I guess it's a little north and west of here.

In February 1988 the Saskatchewan Government, after completion of an Environmental Impact Statement, decided to go ahead with the Rafferty-Alameda project. In June 1988 the federal environment minister of the day issued a licence under the International River Improvements Act. On April 10th of 1989 a Federal Court order redefined the role of the federal government in this project, which was reaffirmed and strengthened by the Federal Court of Appeal on June 22nd of 1989, and that was just last week.

In effect, the Environmental Assessment and Review Process Guidelines Order originally enacted as an Order-in-Council became law, requiring that an additional environmental evaluation pertaining to matters of relevant federal jurisdiction be done by Environment Canada. In this case, these are international waters, migratory birds, fish, federal lands, rare and endangered species, and navigable waters. I appreciate that there is some question about the latter, however there is some interest there in terms of the present situation, and certainly some considerable interests should the project proceed. Needless to say, there has been some considerable controversy and significant difference of views surrounding the Rafferty-Alameda project.

In order to satisfy the court decision, a team of scientists led by Environment Canada prepared a draft Initial Environmental Evaluation which covers the impact of the project on those six matters of federal interest that I just listed. It is not a review of the entire project. Within the time constraints and information available from a variety of sources, we feel that it's a comprehensive, even-handed review based on good, thorough, and objective science.

Not only did federal scientists work on this review, but as a further check independent experts did as well. The consultants working on the project were required to be objective, to have demonstrated competence, to have a proven track record, to be free from any prior involvement in the project, and also to be free from any recent executive involvement in the federal or provincial bureacracy. We welcomed these independent reviews of what we believe to be good science. We were pleased when the independent scientists confirmed and strengthened our conclusions. The federal and independent scientists working on this project are not only top quality scientists, they are people who have their own families dependent on the environment, and who share your concerns that it be in good shape for today and tomorrow. That's why they are dedicated to making this process work, and part of this process is your contribution.

The draft IEE which we have made available to you is the result of long hours of work by our scientists and the independent experts, but we need your help. We have done our best technical work, we have identified the impacts, mitigation measures, and information gaps. Now we are bringing it forward for input from the public. Not only are we holding a series of meetings and open houses at which people can present briefs and ask questions, we are accepting written submissions or briefs up to and including July 10th of this year.

The Rafferty-Alameda public meeting process provides an opportunity to share current knowledge, to listen further, and to address points raised. That's why, after consulting a number of interested parties, we agreed on the process that was somewhat outlined to you by Vern. We agreed to have afternoon open houses for information, questions, and discussions with our scientists. We agreed to hold public meetings at which people can express their views of the draft IEE, and particularly to identify any missing factors. We agreed to structure the meeting so that everyone had a chance to speak, at least those that are registered, and has equal opportunity. People felt the best way to ensure this was to have speakers register in advance and to have one person one brief, one organization one brief, and only one appearance at the public meetings, and we finally agreed to accept both written and oral briefs.

So what happens next? We will listen tonight and at the other public meetings. To ensure we don't miss anything a transcript is being prepared by a court reporter. We will take those transcripts, the written briefs, the draft IEE, and prepare a technical document that reflects all three. We will also prepare a second volume which compiles the input from both the public meetings and the written submissions. We have also asked Vern Millard to submit an independent Moderator's report. All this material, and I want to emphasize this, all this material and input will be included in our August 1st submission to the Honourable Lucien Bouchard, Minister of the Environment.

I can't emphasize enough that public help is critical to the wise use of the environment. All of us are accountable. For our part we have produced a draft IEE. For your part we encourage you to comment on it, either tonight or in writing by July 10th. The documents that go to the Minister will reflect all the input.

Collectively, we face three fundamental challenges. In the absence of scientific or economic certainty, we must decide and take action on complex problems, we must do the right things to the best that ability and knowledge affords, we must pass the management of the environment test by being judged kindly by future generations, we must constructively focus environmental concern to reduce polarization, misunderstanding, and extreme reactions, we must help each other to do the right things through practical and constructive interaction.

After the briefs have been heard, I and the other members of the scientific team who are here will be glad to answer questions for those of you who couldn't attend the open house, and at this point I would like to introduce the other members of the team, and I ask them to stand up as they are introduced. We have a gentleman, Ron Hofer from Inland Waters Directorate in Regina who will deal with questions relating to water quantity; Bill Gummer, IWD, Regina will deal with water quality issues; Peter Boothroyd, Canadian Wildlife Service in Winnipeg will deal with migratory bird issues; Greg McKinnon, Fisheries and Oceans, Winnipeg will deal with fish and fish habitat; Allan Smith will deal with rare birds and mammals; Dave Donald will deal with rare plants, IWD, Regina -- and I forgot, Allan Smith is from CWS, Saskatoon; International River Improvements Act, navigable waters, and environmental review process will be handled by Derek Bjonback from IWD, Inland Waters Directorate, Regina; broad policy and process questions, including matters relating to provincial interest, will be dealt with by Bob Halliday, Inland Waters Directorate in Regina, and in a pinch I might be able to help there as well; if there is anyone in the audience who wishes to address us in French we have a gentleman from Inland Waters Directorate in Saskatoon, Jean-Guy Zakrevsky; we also, representing Dominion Ecological Consulting Limited, one of our external experts, a young lady named Judy Bennett; and from Western Environmental and Social Trends Inc., Susie Washington. On that note, I'll turn it back to Vern.

MR. MILLARD: Thanks, Bev. Incidentally, ladies and gentlemen, there are lots of seats at the front here, so I would encourage you to come forward and sit.

I would now like to ask George Hood of the Souris Basin Development Authority to briefly comment on the project.

HILDING FRANSON: Mr. Chairman, Mr. Burns, ladies and gentlemen; my name is not George Hood, George was detained, and once in a while some of us have to pinch hit for George and the opportunity fell to me tonight, so I'll take a few minutes and tell you a little bit about the project.

I don't think I need to explain too much about the actual Souris basin. I think many of you people are very familiar with it. It was described very well in the draft environmental impact report. Of course it starts northwest of Weyburn, Saskatchewan, flows down through Estevan, goes down into North Dakota through Minot, turns and comes back up here through Manitoba.

Perhaps one of the things that I could mention a little bit about is the need for the project. We, in Saskatchewan, certainly feel that it is very important. I think you are all familiar with the way that the Souris River flows, that it can go from virtually no flow sometimes, as to what we have seen in recent years, to extreme floods, and not only do you have variations between years, from year to year and decade to decade, but you have extreme variability within any particular year. 80 percent or so of the water that is ever recorded is from snow melt.

In Saskatchewan, the Souris floods about two years out of every ten, and normally we have evaporation greater than precipitation. There isn't that much precipitation in the southeastern Saskatchewan. It's called semi-arid, and very few farms actually irrigate now in southeastern Saskatchewan. There is an average of about six per thousand farms as opposed to about twenty per thousand for the entire province.

There is very little water-based recreation, and some people from this area may be familiar with the Moose Mountain area where they have Kenosee and the White Bear lakes, these are about the two largest lakes in southeastern Saskatchewan.

Of course we run into municipal shortages of water, and the 1988 year was one where there was considerable shortages. A number of muncipalities requested assistance for water.

Major floods, of course, occurred in years like '69 and '75 and '76 and '79, and there were millions of dollars of damage there in Saskatchewan.

Now the Souris, of course, is governed by the Boundary Waters Treaty of 1909, and since that time there have been various interim measures, 1940, 1948, the latest 1959. The interim measures is what we currently operate under and Saskatchewan, with that order, an interim measure, was given the opportunity or the rights to 50 percent of the annual flow of the river. Unfortunately, Saskatchewan has not been able to retain its 50 percent. On average, about 85 percent does actually flow out of

Saskatchewan, and with all the reservoirs that we do have at Boundary and Nickle Lake and others, only about 15 percent is actually retained.

Now one thing we do have in southeastern Saskatchewan is a lot of lignite coal, and Saskatchewan Power Corporation has been developing coal there and hydro or thermal generating power for a number of years, and they have made projections for increased power needs for Saskatchewan in a number of years to come, and of course the Shand thermal generating station is one of the industrial uses that is proposed to utilize some of the water.

Now I mentioned that there have been numerous municipalities, urban and rural, requesting financial assistance from the province to cope with the floods. There have also been numerous miles of pipeline to farms and community pastures to pump dugouts and fill these from the river, and in many instances many parts of the river were actually dry.

In just a couple of minutes I'll talk about the project objectives, and of course we call this a multiple-purpose objective, it isn't a single-purpose project. We propose that recreation will be a very significant benefit from the reservoirs in southeastern Saskatchewan; we propose irrigation downstream, primarily, from the reservoirs but there would be some upland irrigation around Alameda, about 12,000 acres, and that's not a lot but it will have a significant impact; municipal water supplies such as for the Hamlets of Hitchcock and Midale and even the City of Estevan; we believe that wildlife will be significantly improved by improved water habitat; and of course the industrial development; and I think the final use, of course, is flood control, and not only for flood control, but of course the United States is prepared to assist in obtaining some flood control for Minot, particularly, by assisting.

The four components of the project. Of course there is the Rafferty dam six miles upstream or six kilometers upstream from Estevan, it will create a reservoir about 67 kilometers long, about 1 1/2 kilometers wide at its maximum, it will hold 440 cubic decameters of water at full supply and up to 632,000 temporarily at maximum flood level.

Currently downstream from the Rafferty site just west of Estevan, the area is so flat there in the Souris that there is virtually no river, and in order to release water from Rafferty downstream for apportionment, irrigation, or other uses, we virtually have to create a channel in the area there, and about 16 kilometers, or portions thereof, the channel actually will be improved.

A third aspect is the Boundary to Rafferty diversion channel, and this is in order to be able to move some water from the Long Creek drainage area, which is about a third of where the water comes from in Saskatchewan, the other third on Moose Mountain Creek, and the third from the main Souris upstream towards Weyburn, but the Boundary reservoir is very small, and this diversion channel will be able to take water, when there are excess flows on Long Creek, and put it in the larger Rafferty reservoir for subsequent use.

The Alameda reservoir is the fourth aspect of the overall project. It's not as large as the Rafferty. It's about 23 kilometers long at full supply level, again about a kilometer wide, but it will be considerably deeper. It will be up to 115 feet deep. Total storage in that one is about 105 cubic decameters, much less, of course.

In terms of the hydrological considerations, the International Joint Commission has studied the river for many years, of course, and one of the things here which -- and I am now going from George's notes here -- he states the commission has stated that reservoirs on the Souris River are, and I'll quote, this is from the IJC:

> "are valuable as storage as long-range means of regulating the flow of this unusually variable stream. Without this means of conserving water

> all these interests would suffer in periods of natural low water flow, and it would not be possible to release water to Manitoba even in the limited extent needed for human consumption and stock watering."

End quote. It is to be noted that in 1988, as a result of the Boundary Waters Treaty and the 1959 orders on the Souris, the only water that Manitoba received on the Souris came from releases from dams upstream in North Dakota.

Now Rafferty and Alameda would have come through a couple of the driest periods. If we had built the dam in 1959, it would still be approximately half full at the Rafferty.

In terms of water quality, I think that I needn't say too much about water quality. I think we all know that particularly during low flows it's characterized by the word "poor". I think that we anticipate that with improved flows from the reservoir, that water quality will generally improve. It will be, we believe, certainly within the reservoirs, that the water will be suitable for all the uses that were intended from the reservoir. A high-level intake is proposed on the Alameda dam, and that's because of the potential thermal stratification on that reservoir because of its depth.

One of the factors that I think everyone will welcome downstream with the Shand generating station is they will be using all of the effluent, from the Estevan sewage lagoons, that Estevan can produce, and no longer in the future will effluent be released annually into the Souris River. Regarding water quality impacts in Manitoba, a recently-completed report by Saskatchewan has concluded that present data did not provide any conclusive evidence that, on average, flow alterations would cause deteriorated water quality conditions in Manitoba.

I would like to table with the Board tonight two letters; one from the Souris Basin Development Authority; and one from the North Dakota State Department of Health regarding water quality, that the water quality conditions and the assurances that are provided for in the 1959 order will be adhered to.

In terms of the environmental impacts, the Souris Basin Authority did an environmental study. This is what has been evaluated by the federal government. The federal government has done a review of this, and the Souris Basin Authority and the Province of Saskatchewan has responded to the draft IEE, and I will not go into any of the details on that.

I just might mention that the actual amount of the valleys in Saskatchewan that will be inundated are small. We believe that the environmental protection and the mitigation that has been proposed by Saskatchewan is unprecedented, and we have committed to no net loss of habitat for wildlife, and that is detailed, there are 31 quarter sections of land around Rafferty and another 30 quarters around Alameda, and the mitigation for the pasture has been identified in the report. Ecological reserves downstream of Estevan have been proposed to protect ecological areas and rare and endangered species. The issue of potential drainage of uplands has been addressed.

I think, finally, I might comment that there has been considerable consultation with the public. Over 700 meetings have been held with individuals, affected land owners, and another 150 public meetings, primarily in Saskatchewan, have been carried out.

I think I have used up all of my ten minutes, Mr. Chairman, and I am a little nervous. Mr. Hood can have this job back the next night. Thank you very much.

MR. MILLARD: You did very well. Thanks very much. We are now in a position to turn to the individual submissions, and again I would simply remind you of the ten-minute requirement. The first submitter is Ken Carels, Mayor of the Town of Melita.

Ken Carels
Melita, Manitoba
Monday, June 26th, 1989

KEN CARELS: Thank you, Mr. Chairman. As you know, Melita is close to the bottom end of the Souris River, and in this stretch of the river the channel is about the same size as the channel is in Roche Percee almost 300 miles upstream. The river flow spills outside the banks often and regularly. The flows in our area are also retarded by unique geographical formation known as the sand hills. These sand hills defy the creation of a deep river channel because they keep eroding into the river. All things included, we in Manitoba are on the receiving end of all the water that flows through the Souris River.

The most recent serious flooding of the Souris River in the Melita area was in 1969 and also in 1976. There have been other smaller floods, and each one creates damage, depending on the magnitude. Our area has experienced below-normal precipitation in the last few years. Last year, the Souris River would have been dried up had it not been for the water management in the United States at Lake Darling.

During the Souris study, we found out that considerable additional water has been added to the river through drainage development. This subject was discussed during the study by all the citizen task forces. We agreed that something must be done.

We know that the creation of a large reservoir that would contain the Souris River and Long Creek, and another on the Moose Mountain Creek, would remove the threat of that one in 100-year flood, and we will benefit from that protection with the Rafferty and Alameda dams on the Souris River, therefore that we can manage the Souris River.

We realize that the Souris River flows on to us from the United States, and that the Americans are responsible for flow changes that will affect Manitoba, but throughout the Souris study we visited and talked with citizens who lived along the Souris or Mouse River, and we all agreed that this river must be brought into a manageable state.

Certainly, we have some concerns. The future planning, development, and operation of all activities and works, including all existing works, should fall under the management of an interprovincial and international citizens' government board.

We expect that the discharge of water from the reservoirs will occur throughout the summer, and that this discharge will improve both the quantity and quality of the water in our area. We have farmland that is suitable for irrigation, and we are interested in the development of irrigation. We also need to consider the possibility of future water-related industrial developments.

We strongly feel that the quality of water will be no less than it is today. Water quality of the Souris River is important to the Town of Melita because of present and future domestic requirements. At the present time, the Town of Melita supply is taken from several wells in close proximity to the river. Although this water is ground water rather than river water, it is apparent that the river has an effect on those wells, as the level of the water in the wells rises and falls with the level of the water in the river. The Souris River is a potential source of domestic and industrial water, and could affect the future growth and development of this town.

Recreation activities related to water are in greater demand than can be met at the present time due to a lack of adequate bodies of water. There is a potential in this area for artificial or man-made reservoirs, and if these become a reality, a water supply adequate to maintain fish and wildlife, as well as being suitable for body contact water recreation is desirable.

Mr. Chairman, we agree that the development of this water management project is needed and we request an opportunity, as citizens, to participate in future planning. Mr. Chairman, let me remind you that we participated in the Souris River Study, we attended board meetings, we attended task force meetings, we attended education seminars, we visited with each other all along the river, and this is our front and back yard, our home.

Now is the time that the technology is available, the money is available, and the need is at hand. We must get on with it. We must manage our water resources. Thank you very much.

MR. MILLARD: Thank you. The Honourable Glen Cummings? Would you like to proceed Mr. Minister?

THE HON. GLEN CUMMINGS: Good evening Mr. Chairman, ladies and gentlemen, it's my pleasure to be here this evening.

I would like the opportunity to put on the record some of the concerns of the province and the expectations, and with respect to the Province of Saskatchewan and the State of North Dakota's desire to construct the Rafferty dam on the Souris River and the Moose Mountain Creek.

Manitoba's concerns and expectations in respect to the construction of these two dams have remained constant over the history of the initiative by the Province of Saskatchewan. In December of '87, these concerns were detailed to the Government of Canada as follows:

> "Manitoba has a right to expect, as a party who could be affected by the proposed project, that the proponent provide the following:
> - a thorough, scientifically credible analysis which provides the expected values of all water quality parameters at the Saskatchewan/North Dakota Border for all anticipated operating regimes of the project,
> - a thorough, scientifically credible analysis which routes all of the Saskatchewan/North Dakota water quality parameter values through North Dakota, applying the expected North Dakota operating regime to produce the expected values of all water quality parameters at the North Dakota/Manitoba Border for all anticipated regimes in North Dakota,
> - all the necessary work outlined above should be performed or funded by the project proponent, North Dakota and/or Saskatchewan, and whatever time is required to perform the necessary work and to consult with the affected public must be built into the project schedule.

In this same correspondence Manitoba indicated that it would be prepared to:

> - prepare detailed guidelines for the preparation of the necessary water quality and water quality related impact assessment work,
> - we would provide information on the Souris River basin water quality objectives that we have in place,
> - we would provide information on baseline water quality in the Souris River basin in Manitoba,
> - and assist in the development and execution of a public consultation process.

At the same time the province indicated that it would be not prepared to sign off the project until:

> - all of Manitoba's water quality concerns have been satisfactorily addressed,

- all of the work outlined has been completed to Manitoba's satisfaction,
- the approved analysis indicates that there were no adverse water quality impacts to Manitoba from the project,
- appropriate mitigation measures, substantiated by credible scientific analysis, which eliminate adverse impacts to Manitoba water quality from the project are agreed upon.

All these matters that were requested by Manitoba were consistent with widely-accepted environmental assessment principles. Manitoba called for a thorough analysis of all potential impacts of the project at the expense of the proponent, while at the same time offering to co-operate in all aspects of the assessment review. Manitoba also expressed its concern that the effect of the proposed project on Manitoba has not been addressed through the Rafferty-Alameda project Environmental Impact Statement prepared by the Souris Basin Development Authority.

The U.S. Army Corps of Engineers' Souris River basin project general plan report and final Environmental Impact Statement released in July 1988 failed to address the matter of water quality and quantity as it related to the North Dakota/Manitoba boundary. Manitoba arranged, in co-operation with Environment Canada, to have these shortfalls in the Corps' EIS brought to the attention of the Corps, requesting that they be addressed in a supplement to the EIS. To date, however, this supplement has not been received.

The first request mentioned above came from the previous government of this province, the second from the present government of Manitoba. Through a change of administration, the position of Manitoba has remained constant. This position of the Government of Manitoba has remained constant because it represents a reasoned approach to permitting the benefits of the proposed project to be achieved, while at the same time ensuring that those benefits are not achieved at the expense of others. We are prepared to co-operate, we will co-operate with the proponents of the project, but we must be assured that the interests of the Province of Manitoba are fully protected.

In its natural state, Mr. Chairman, the Souris River appears to have only two normal stages, either a drought or a flood. It is essential that means be found to co-operatively manage not only the fluctuating flows of the river, but to provide protection of the quality of the waters of the river. The challenge is to find the means by which this can be accomplished, a means that must ensure that the benefits outweigh the costs, and that the benefits to one party are not achieved at the expense of others who have to rely on the waters of the river.

Attempts to achieve this balance has led to Manitoba's participation in the negotiation in the required international agreement in respect to the project. During these negotiations, Manitoba insisted on the inclusion of provisions for the establishment of a water quality monitoring group with representation from Saskatchewan, North Dakota, and Manitoba, as well as Canada and the United States. Manitoba also insisted on provisions within the agreement to assure its participation in decisions in respect to the operating plan for the project. It is only through a co-operative and informed approach to meet the needs and concerns of all parties that the desired benefits can be achieved without unacceptable costs.

Manitoba's desire to find a means by which the waters of the Souris could be managed co-operatively in order to provide maximum benefits and protection to each of the provinces and the state through which the river flows led to a proposal from Manitoba officials that went to Saskatchewan and North Dakota. A memorandum of understanding was entered into between Saskatchewan, North Dakota, and Manitoba to provide for the co-operative management, development, and control of the waters of the Souris River basin. Co-operation of this nature is required regardless of whether the project proceeds or not.

The decision of the Federal Court of Canada resulting from the action of the Canadian Wildlife Federation has substantially altered the circumstances now facing the decision-makers in respect to this project. An opportunity has been provided to take a much more thorough look, Mr. Chairman, at the implications of proceeding with the construction of these two dams. This opportunity should not be wasted. It was this desire to ensure that every effort be made to clarify the issues before us that resulted in Manitoba writing to the Minister of External Affairs on April 17th, and I would quote from that letter. It says

> "I would respectfully suggest that the recent decision of the Federal Court of Canada and the announcement of the Honourable Lucien Bouchard, Minister of Environment, that the Government of Canada will be undertaking a full assessment of the impact of the Rafferty-Alameda project makes it essential that the final approval of these documents be deferred until this assessment has been completed. We are concerned that the U.S. Corps of Engineers has not yet filed the required supplement to its Environmental Impact Study on the project. You will recall that through diplomatic channels the Corps was requested by Canada to include in this supplement information in respect to water quality and flows in the Souris River at the North Dakota/Manitoba boundary."

The Minister of External Affairs has confirmed that the international agreement will not be proceeded with until the questions pertaining to the International River Improvements Act licence have been resolved and United States domestic requirements are completed.

This Initial Environmental Evaluation process undertaken by Environment Canada provides a detailed summary of information currently available as to the expected impacts that would come from this project. It also identifies the areas of deficiency and the availability of such information and the uncertainties that exist as to the effects of the project.

The public meeting process now under way will provide an opportunity for additional concerns and possibly some gaps in the information to be presented. It will not, however, provide answers to all the concerns that have been presented, nor will it result in all the information deficiencies listed in the IEE being provided.

Manitoba therefore urges the federal Minister of the Environment to refer the project to a panel for full evaluation under the provisions of the Environmental Assessment and Review Process. Only in this manner will all the public concerns be addressed, problems fully identified, and solutions, if such are available, be found. We are prepared to co-operate fully in this process.

Means by which the water of the Souris River can be used for the benefit of all in the basin are required. The full co-operation of all of the state, provincial, and federal levels of both Canada and the United States is required if the waters of the Souris River are to be managed in a manner that will provide these benefits without unacceptable impacts.

I don't intend to enumerate, Mr. Chairman, the concerns, in great length, that we have in respect to this proposed project. Instead, Manitoba will forward to you a detailed review of the IEE and the draft documents, and details of Manitoba's concerns in respect to water quality, water quantity, and amelioration and mitigation of other adverse effects of the project.

There is, however, one aspect of the issue on water quality that I would put forward at this time to ensure that there is no misunderstanding of Manitoba's intent. In the discussion of water quality in the Souris River, one of the most important documents is the 1959 interim measures. These interim measures allocated to Saskatchewan 50 percent of the flow of the Souris River at the Saskatchewan/North Dakota border. These same interim measures provided that Manitoba would be guaranteed, except during periods of severe drought, of the receipt from North Dakota of 20 cubic feet per second of water during the period from June 1 to October 31 of each year. In 1961 and 1962 were the only years that the severe drought criteria actually were applied. North Dakota has co-operated fully with Manitoba in this respect, and the occasions when Manitoba has not received its allocation of water have been very rare. In fact North Dakota has, on many occasions, provided extra water to Manitoba when it was needed.

Manitoba recognizes that from a Saskatchewan point of view, the province is now merely taking action to retain, for its own use, the water flows which were allocated to it by these measures. It must also be recognized that we are now operating in a different era from that which was present when the Boundary Waters Treaty of 1909 was signed, and even from that which existed when the 1959 interim measures were adopted by the governments of Canada and the United States. There now exists, and rightly so, a much greater concern as to the effect man-made changes of the natural flows of rivers has on our environment. It is therefore essential that the hydrological factors and effects of such action is fully understood before we proceed with such a plan.

A search of documents relating to the approval of the 1959 Interim Measures indicates that the International Joint Commission had a considerable amount of concern in respect to the division of water of the Souris River at the North Dakota and Manitoba border. General A.G.L. McNaughton, then Chairman, Canadian Section of the IJC, in presenting its report to the Standing Committee on External Affairs to the the House of Commons made the following comment:

> "This is an interim order which has been proposed so that if the uses of the water in the Souris River
> - which can be served appropriately from the Souris River
> - should increase, the commission does not have to wait to get more jurisdiction from the governments; the jurisdiction of the commission has been reserved and we can take it up again at any time that it is required."

Manitoba, in early negotiations in respect to the international agreement required by this proposed project, indicated that it hoped, during the negotiation process, to obtain an adjustment to the interim measure to provide also for the minimum guaranteed flow to Manitoba during the winter months. Later in negotiations, in response to the refusal of the United States interests to discuss increases in the guaranteed flows, Manitoba reluctantly withdrew its proposal. Manitoba insisted that the provisions of the 1959 Interim Measures, as they related to flows into Manitoba, not be altered. Manitoba's right to request the IJC, in accordance with General McNaughton's statements, to readdress the matter of adequate flows to Manitoba at the appropriate time would thus be retained.

There is no question that a guaranteed flow of 20 CFS during the period June to October barely meets the minimum flow requirements for Manitoba. In fact during 1988, a sustained release to Manitoba of more than 20 CFS was not sufficient to maintain a live stream at Wawanesa. A reasonable increase in the duration and the volume of this guaranteed flow would assure the communities of the Souris valley of an adequate supply of water for municipal and industrial purposes, improve water quality, enhance the opportunity for regional growth, and enhance the viability of sport fishery in the Souris River in Manitoba.

Manitoba will be carefully considering its water needs on the Souris River and will, at the appropriate time, be requesting the IJC to reconsider the appropriateness of the existing limited flow guarantee.

In closing, I want to reiterate Manitoba's desire to co-operate and participate in the management of the water in the Souris basin, and to ensure that benefits for all are maximized and that adverse effects are minimized. Mr. Chairman, I thank you for your time.

MR. MILLARD: Thank you, sir. Harold Taylor?

HAROLD TAYLOR: Good evening. Members of the review panel, distinguished guests, ladies and gentlemen; my name is Harold Taylor, I am the Liberal environment critic in the Manitoba Legislature.

The dream of adequate and secure water in the dry area of our prairies is not a new dream, and it's not one to be scoffed at. I personally have lived through a regime of water rationing in the town where I grew up, and it is something that becomes a part of your way of life, and something that isn't terribly desirable, so having heard all the statistics of the dry years in the past and the more recent memories of the last couple of summers, and having lived through some of it, I share with you some of the concerns that you have, and I am sympathetic to the desires that we hear from the people in the valley, whether it's in the valley in Saskatchewan, or North Dakota, or right here in Melita.

The issue before us, however, this evening is, from our viewpoint in the Liberal party, one of process. What should the process be, and was that process followed. I would suggest to you that the process is that when there are any major undertakings, major projects of any sort in our modern world, we have to look at the environmental impacts first; then we look at the economic considerations, are the benefits there to be had, are the public and private dollars there to put into the project; and then the political decision should be made. I think what we have in the case of the Rafferty-Alameda is we have it in reverse. We have the political decision has been made, the environment studies are inadequate and incomplete, and I will talk to you more about that in just a moment from a technical viewpoint, no economic studies were done, and I think that is food for thought.

It's recognized that if one can improve the water supply in one's area, there are benefits to be had; irrigation, water supply for drinking, feeding of stock, the possibility of inciting industries that were not possible without that water supply secure. We all know about that kind of thing, but let's bear in mind that a project should not be trumpeted as a panacea for all the economic and social problems that we face in the rural parts of the prairies, and I think that's exactly what has happened.

Our position has never been to oppose the dams in principle, and I want to be very clear-cut about that. We have taken the position, however, that the process must be followed. I don't think any of us want to despoil some of the fragile prairie heritage that we have in our flora and our fauna and our watercourses, they are too precious to us -- and that's part of my concern and I will be into that a little more in a little while -- but let's fully understand, before proceeding on a project of this nature, of this scope, of this impact, let's understand the impacts and the disbenefits, and there are disbenefits in actual terms.

I was very pleased to hear, a moment ago, my colleague the Honourable Glen Cummings, the Minister of the Environment, make the statement that the position now, I say now, of the Manitoba Government is the calling for a full environmental impact assessment, a Stage II panel, an independent panel, complete with public hearings. We have been calling for this since last summer.

In attendance with me is also the critic from the other opposition party, and I think what you are hearing tonight is you are hearing all three parties in Manitoba speaking with one voice on a very significant issue.

Harold Taylor
Melita, Manitoba
Monday, June 26th, 1989

Some of the technical shortcomings, for the members of the panel, that we have seen when we have taken apart some of these tombstone documents that we have been handed, there are some more here tonight, there were more last summer including the studies from Saskatchewan, including the U.S. Army Corps of Engineers' reports, and we pulled them apart in Winnipeg. Very obvious thing, the full scenario is one that I would question, and I would question because it does not look at all the historical data. It does not look at the historical data for the weather and for the evaporation factors. Why was only one-half of the weather years taken? Data is available from 1911. I think it's very questionable, from a scientific viewpoint, that half the data was used when data could have gone back that far.

There was also the issue that was stated by the former minister of natural resources in this province repeatedly is that we are going to get more water and better water, and the studies that we have looked into, it did not indicate that, not for Manitoba in any case, and that's often the case of downstream users. The indication was, and there were red flags raised in a book by the provincial natural resources people to the effect that in reality, there would be less water and poorer water, and I think that would be a concern to anybody downstream, as you are in this context. You are the third jurisdiction, as user, after Saskatchewan, after North Dakota. And Saskatchewan, by the 1959 agreement Mr. Cummings mentioned, is allowed 50 percent. Saskatchewan, because of problems filling those dams, and they finally recognized them in the last few months and admitted it publicly in the provincial Legislature of Saskatchewan, they may want 60 percent. That gives me concern. I would like to know. Which is it, 50 or 60 percent? I think you should know it also.

Technical problems also on the hydrology. There were hydrology study problems in North Dakota, the U.S. Environmental Protection Agency was very concerned about them and asked for some of them to be redone, in fact they spoke about the fact that they didn't come across the border very far other than to say yes, there will be impacts, flood impacts in the first reaches of the river as it enters Manitoba, but nothing to address the scope and the scale of what those impacts would be from floods, and nothing further down the river after that.

The same criticism can be raised against Saskatchewan. Saskatchewan did not study hydrology out of its province and well into North Dakota, in fact it barely went across the border a few miles. That sort of approach, that sort of scientific way of dealing with things in this day and age is not acceptable. In fact there are people that can do the studies, and do them properly, and not leave gaps.

In the case of North Dakota, their consultants were the U.S. Army Corps of Engineers, very capable people. Why did they not take a base case, the river as it is today with structures on it such as dams, such as levies, such as inflows of sewage, such as outflows for various industrial and farm use, why did they not take that base case and then measure the project to it? You must know that you have got to say what you will have. A very, very base mistake, a totally unscientific approach.

There is also no common baseline data between the three jurisdictions as it relates to the proposed river management system. Now the goal of a river management system is commendable, and we have been very supportive of it, it is the right thing, it is decades overdue, but in order to manage the river as a system you must have data that is derived in the same fashion, and to the same degree, and over the same study periods to know that you are talking the same thing over each leg of the river, whether it is in North Dakota, Saskatchewan, or here in Manitoba.

Since 1959, there have been no guarantees for Manitoba for low-flow years, in which you would have possibly very little water in the Souris naturally here, today you are getting it out of the -- or last year you are getting it out of the reservoirs in North Dakota. There is no longer any absolute guarantee. That was signed away, and I think people should be aware of that. While there is enough water in North Dakota in those reservoirs, the good neighbour policy will apply. When they are out, we are out, and nobody has addressed that, and I think that is a very serious issue.

These are facts, I am sorry to say, that have not come out too often in this part of the province, and certainly not across the border into Saskatchewan, because they are not getting the impacts, people here in this part of the province will.

I know there is some interest that if this project succeeds in Saskatchewan, maybe there is some potential here in Manitoba on the Souris also, and yes, maybe there is some potential. And let's look at it. But I hope when we deal with it here in Manitoba, we are going to deal with it in a lot more scientific and a lot more open way than has been the case in Saskatchewan.

And I spoke of economics, and I'll give you just one little one here as food for thought. One of the main goals of this project has been irrigation, and people don't realize that three times as much land will be flooded as will be getting regular irrigation. That, to me, is not terribly economical, not with the scarcity of good land, especially land that can be irrigated. The impacts on Manitoba are not known, and they are not known because studies were not done here. There was a quicky study done by Natural Resources last summer that did raise some concerns, but there has been no true impact studies done here in Manitoba, either by the proponents -- and there are two, Saskatchewan and North Dakota, because they are twin funders on this -- there have been no studies done here in Manitoba by them, there have been none done in Manitoba by either the present or former Manitoba Government, and there have been none done by the federal government, and that really gives me concern. This is a trans-border river, an international river. Why has the federal government backed out and not played the role that it surely must play? And if it hadn't been for the quirk of the fact that there is a significant amount of land, some 4,200 hectares in Saskatchewan actually owned by the federal government, then we wouldn't have been going through this process tonight, which says to the federal government "what are you doing, you issued a licence by not -- and you weren't following due process".

Well I think there are some concerns that due process was not followed, and you have heard the concern, some of you probably have, about the facts that there was a tradeoff, a tradeoff of a national park for an environmental licence on two dams, and there seems to be somewhat of evidence to that effect, and I hope that is not the case, because personally I campaigned through the early '80's for the creation of that grasslands national park, the last piece, a large piece of unplowed prairie land that we have in Canada. I hope that is not the case. We also --

MR. MILLARD: Mr. Taylor, your time is getting --

MR. TAYLOR: Thank you very much, Mr. Chairman, I appreciate that. A couple of last points is that the Manitoba Government was not involved in the analysis, as we said. It also was not involved in the negotiating of the deal, because unfortunately the deal was negotiated beforehand, and I have documentary evidence that I will show to the panel which shows that the deal was put together without the involvement of the two federal governments, U.S. and Canada, and without Manitoba involved. We didn't have a chance in getting our goals of more water and better water, it wasn't in the cards for us, a deal had been done.

The federal government, in summation, must play its role. Anything short of a full environmental impact assessment with independent panel and with public hearings will not satisfy Manitobans, and I think what we will have out of this is a knowledge, Mr. Chairperson, of what the real impacts are of this study along all the reaches of the river; Saskatchewan, North Dakota, and Manitoba, and not a case of partial information on the first two and nothing here, and I think we do need to know those impacts, because until we know those impacts we can't say how much compensation -- and I say compensation -- which Manitoba will require to mitigate against the impacts that are potentially there. So we would recommend very strongly that this study be carried out thoroughly, let's analyze the project, and with the knowledge thereafter then possibly the project will be fit to proceed and the impacts won't be coming in an unknown fashion and without compensation available, and there will be a written submission delivered to you, and thank you very much.

MR. MILLARD: Thank you. Loren Sproat?

LOREN SPROAT: Mr. Millard, Mr. Burns, members of the assessment panel, ladies and gentlemen; Good evening. My name is Loren Sproat, I am a tourism businessman, I have lived at Kenosee Lake for the past eight years. I was born and raised in Kipling, Saskatchewan beside the Kipling marsh. I have lived in Eston, Saskatchewan in the area of the Diefenbaker dam I have also lived at Carrot River by the Squaw Rapids dam and the Tobin Lake area.

I have seen, firsthand, the benefits these dams have had to tourism, agriculture, industry, wildlife, water supply, and quality. These dams have become very important to their own areas. I have also seen lake levels at Kenosee Lake drop to a level that it's of concern to people in the area. In the late '60's the Kipling marsh was pumped dry, even with my family's opposition to this. Now, in the '80's, Ducks Unlimited is trying to fill the marsh for wildlife.

I am here today to talk about the positive impact the Rafferty-Alameda project will have on the area. I am also here to show my support to the Rafferty-Alameda project.

One of the benefits is to agriculture. The irrigation of up to 12,000 acres can be done with flood water, which would be controlled. As one local farmer in the area put it, he said he would sooner have one section of irrigated land over ten sections of ordinary land. Mr. Shoemaker felt that the irrigated land would take some risk out of farming, and would make planning for the future much easier.

When we think of industrial benefits we think of the Shand project. The Shand is being built for three main reasons; to satisfy area power needs; to replace aging generators; to maintain an acceptable quality of service. The construction of the Rafferty dam would be a cooling source for the Shand. The construction of the Shand without the Rafferty-Alameda would cost the people of Saskatchewan a considerable amount of money and time. It is my understanding that the Shand can be cooled through alternate sources, however, in my mind this would be a great injustice of public funds.

As to flood control and quality of water, many things come to mind. The U.S. is working in conjunction with Saskatchewan to control flooding in the United States. The North Dakota Government is prepared to put up financial support for the project. One would think they are very concerned about flood control.

The assessment of water quality impact is extremely complex and a technical area. At present, water quality in the Souris area is extremely variable. This, in conjunction with the flow level and the variations between main stream Souris and existing reservoirs, the effect would be to moderate these differences in water quality. Saskatchewan is obligated to maintain quality of water through the boundary treaty. The boundary waters shall not be polluted on either side to injury of health or property to the other side. My feeling is that money spent on trying to stop the Alameda-Rafferty dam would be better spent on monitoring water quality for the future of Manitoba and Saskatchewan.

As far as recreational benefits are concerned, the possibilities are endless. In Saskatchewan, both public parks, private cottage developments will occur on both reservoirs. As well, there will be points of public access to the reservoir for boat launches and fishing, etcetera. On the eastern end of the Rafferty a public park has been proposed. It will include such facilities as boat launches, camping, picnic grounds, hiking trails, beach development, fishing, and support services. There is also a similar proposal on the southeastern side of the Alameda reservoir near Oxbow. As clearly demonstrated at Kenosee Lake, a variety of sports can be sustained, not only in the summer but all year round. If there are fish in the water in the summertime, there will be fish in the winter below the ice, hence ice fishing. Likewise in the summer there are nature trails, in the winter they can become cross country ski trails.

As to wildlife, it runs abundant in our park. I realize there is a lot of controversy surrounding the effect on wildlife. I think the water is extremely important to the wildlife. A reservoir would maintain a steady water source for animals and birds. The Diefenbaker and the Squaw Rapids, from my observations, have certainly had a positive impact on wildlife, and so would the Rafferty-Alameda dams.

Living at Kenosee Lake, with its low levels of water, has made me realize the importance of maintaining water levels. I cannot quite understand why anyone would not want to save water and manage water for the future of Saskatchewan and Manitoba. Thank you.

MR. MILLARD: Thank you. Steve McLellan?

STEVE McLELLAN: Mr. Chairman, ladies and gentlemen, my name is Steve McLellan, I live also at Kenosee Lake, I am the operator of a business that requires a high number of tourists through the summer season to continue its viability.

Over the past years, the lake at Kenosee has dropped in water level, and this has dramatically caused a concern not only to the local residents and businessmen, but also, of course, to the tourists. If there is no water in the lake, there is no reason to visit the lake as a tourist. During the past few years local people have been asking what can we do to help the water level, what can we do to stop the recession? The most common answer, of course, is nothing. We have to blame it, unfortunately, on mother nature. People in these times, it seems, become very reliant on provincial governments and federal governments to come up with solutions to problems like this, but in our problem at Kenosee, unfortunately even our provincial government didn't have an initial answer for us.

In reading through the evaluation study I realized even further that we in Saskatchewan, as well as I think in Manitoba, have never really taken water management as seriously as it is necessary. It's during the dry years, it seems, that the subject comes to mind when it's already become a major problem. Construction of the Rafferty and Alameda projects would give us the required experience provincially, in a real-life situation, of how best to forecast and properly deal with any questions that arise. Although it sounds strange, Saskatchewan and Manitoba should become experts in water management, because it's a commodity we both have so very little of.

With the development of the projects, we are given a chance to learn, and also in our situation in Saskatchewan, we are providing another power supply which, in the very near future, is going to be come very necessary. It also provides Manitoba, Saskatchewan, and North Dakota with more complete flood control systems. At the same time, to the benefit of Saskatchewan and Manitoba, the cost will be shared between not only the federal and provincial goverments as well as, of course, our American friends.

When I read through the report, one term struck me as a little bit strange, "informational deficiency". It seems nowadays that a person can get just about any type of information just by pushing the right key in the right computer somewhere. It appears that I was wrong. One major example, again, towards water management is that this information is not accessible to us, and we may have to learn as we go.

One other topic or a term, rather, that was utilized was "adversely affected". Waterfowl in the area would be considered, in some situations, adversely affected. I think also, as they pointed out in the program, that by not allowing off-river drainage to fill the reservoirs, and perhaps in some situations limiting hunting around the reservoirs, we could eliminate the initial adverse effects. I believe that the majority of waterfowl nesting happens in small sloughs and potholes anyway, not necessarily in large bodies of water.

Fisheries was another concern of great importance covered in the report. To achieve the full recreational benefits of the project, I think that the question of mercury levels must have a solution. If the fish aren't fit for consumption, then the recreational value is greatly diminished. Even with the question remaining of mercury levels, the report says that we in Saskatchewan, fortunately, will suffer no net loss in fisheries. I understand in Manitoba the situation isn't quite as good.

Although it's true we need extra power and water management programs in Saskatchewan, I also believe we need the hawks and the sparrows as well as all the other types of animals that are to be adversely affected by this project, and I feel very strongly that every effort must be made to transplant and monitor these to the other areas. We must gather more information on all possibilities.

Changes in the early flow rates may affect water quality in some areas for early periods, but the damage done through flooding is an even greater problem. It will, I expect, take some time for the reservoirs to become full, and in that time I suggest that the two provincial governments join forces with the Canadian and American governments to continue to find solutions to these and the other problems. The project must continue, even without 100 percent of the answers. Because of the lack of general information, I think that we have to find the answers that fit our specific needs here.

While I live outside the area designated in the environmental evaluation report, please believe me when I say that the project will have an impact on me. I speak to you as a businessman, a tourism association president, but most of all as a concerned Saskatchewan resident when I say proceed with the plan as soon as possible, we must learn as we go and move slowly and carefully, and make water management a field that Saskatchewanians and Manitobans will be proud to say, one day, that we are all experts in. Thank you.

MR. MILLARD: Thank you. Douglas Cameron?

DOUGLAS CAMERON: Mr. Chairman, ladies and gentlemen, Environment Canada, June the 26th; I appreciate the opportunity to express my views as they relate to the Rafferty-Alameda project. My tour this week of the J. Clark Salyer, Upper Souris, and Des Lacs National Wildlife Refuge in North Dakota, where the annual duck population are 400,000 plus, the refuge officials' concerns aren't in accord with the representation of project officials who addressed the meeting here in the municipal office last week. They seem to feel that this project is going to be very devastating to their refuge, the chaps I talked to.

I would like to suggest we urge consideration of:

1) The Canadian Wildlife Federation and the United States Fish and Wildlife Service, along with the American Corps of engineers and Dr. Eva Pitt (ph), University of Manitoba, be afforded the opportunity to meet at the neutral International Peace Garden in the Art Rose (ph) pavilion for a hearing of their diverse opinions as to the future of the Souris River basin.

2) The Antler River reservoir project one mile from the confluence of the Souris River in the Municipality of Arthur be considered as a source of supplemental supply to the Souris River. The PFRA estimate approximately 30,000 acre feet of reservoir storage with a 50 percent annual summer draw-down would give 15,000 acre feet or 20 million imperial gallons per day of Souris River water. PFRA estimate the cost at 9 million of this project on the Antler River.

3) The refuge lagoons in North Dakota appear to have exceeded their capability to cope with the biota load, the ducks' excrement. Presently the natural refuge conditioning of this waste is inadequate.

This condition has prohibited, for some years, the capability of the Souris and Assiniboine Rivers to supply water quality acceptable for processing of food products.

4) The annual 400,000 ducks and 250 species of birds within the 358 miles of the Souris River in North Dakota requires a plan to induce the spring migration of the ducks, I feel, to Prince Albert National Park in Saskatchewan by aerial spreading of non-commercial feed barley and possibly frozen barley, which has little or no commercial value, in that nesting area of the principal flyway to encourage this habitat and thus reduce the overload in North Dakota. The biota load from the three refuges is of prime concern. The estimated additional water from Rafferty-Alameda will not address the increasing biota problem in our Manitoba Rivers. The Americans I talked to consider only a 10 percent less volume of water attributable to the dams and reservoirs as proposed on the Souris River and Moose Mountain projects.

The copy I sent, Mr. Chairman, to Regina a week or so ago didn't include this footnote, and if I have time I would like to add. I might add this as it relates to the nuclear change-over as a heat source for the Babcock Wilcox steam boilers which are presently located at Estevan in the boundary plant. The coal supply will within a few years, 20 to 30, reach the cost limit. The overburden is so high, in the neighborhood of 150 or 200 feet now, and the cost of bringing that coal in is becoming so terribly expensive, and the question would be would the closed circulatory system, as they are presently planning and have, be adequate or adaptable for a nuclear reactor? When they put the plant in there 15 or 20 years ago they had in the planning that it would be, they only bought a 20-year supply of coal originally for Boundary dam, but they have acquired more property lately, and they had initially proposed, in the construction of the Babcock Wilcox boilers, that they could be changed over and converted to a nuclear reactor for fuel. Our Manitoba White Shell Nuclear Research Center at Pinawa could advise on this cooling aspect and advise of other conditions, either local or downstream from Boundary, for Boundary and Shand. There could be some complications there, and you might say "well what in the world would a fellow want to know about that?" The Chairman of the Manitoba Hydro commissioned me to prepare a working paper for Manitoba Hydro on the comparison of putting in nuclear plants in southern Manitoba. That was at the same time we were studying putting in at Nelson and tying in the Churchill Rivers, and that's how I came to be somewhat acquainted with what's involved in that kind of a nuclear setup, and really in my estimation, while I don't think it's going to hurt the project and I hope it wouldn't, it's a whole new ball game when you come to that kind of change-over. Thank you.

MR. MILLARD: Thank you, sir. Doug Southam.

DOUG SOUTHAM: Mr. Chairman, ladies and gentlemen;

when I heard Mr. Taylor say that there was going to be no more water, when North Dakota ran out of water we weren't going to be able to get any here, and I expected all of a sudden we were going to get some miraculous way of getting water. In fact I kind of wondered if I might see him start to do a rain dance, but anyway we didn't get that, and I haven't seen anybody yet that can produce water when there is no water there.

Mr. Chairman, I have lived in the vicinity of the Souris River in southwestern Manitoba for 40 years, and certainly support the building of the Rafferty and Alameda dams. During the past ten years I have lived in the Melita area working as an agricultural extension agent. In this capacity I have worked with farmers in my area from the North Dakota-Manitoba boundary on the south to near Hartney on the northeast. In this area the Souris River meanders back and forth for a distance of approximately 60 miles with very little difference in elevation, so it is therefore very slow flowing.

Farmers in this area, as a general group, support the construction of the Rafferty-Alameda reservoirs, I think it's safe to say. Farmers living and working right in the valley itself are more vocal in their call for good water management on the Souris River. This group has suffered high losses in the flood years like 1950, '54, '69, '76, and '79. In years with little or no runoff, such as we have experienced in the '80's, these same farmers have had poor pasture production and poor quality of water for their cattle and horses to drink during the summer months.

If Rafferty and Alameda dams were in place, the surplus from the flood years that I have mentioned could be stored and reduce the severity and the duration of flooding in the valley during those years, and this surplus could then provide a higher flow in dry years, which would not only provide more water, but better quality water for livestock, for crops, for wildlife, and fish.

Two farms in our immediate area operate three central pivot irrigation systems with water from the Souris. During 1987 water was not available for one of these farms to operate this expensive equipment, and it had to stand idle. However in 1988, with releases from Lake Darling of 20 and up to 35 cubic feet per second, adequate water was available from June to August. More reservoirs along the Souris River like Lake Darling would assure farmers of a higher summer flow to meet their needs. Therefore, the sooner the Rafferty and Alameda dams are built, the sooner we will have this continuous supply of water in the Manitoba portion of the Souris River.

I would like Environment Canada officials to be aware, as I am sure they probably are, that there are several creeks and rivers entering the Souris River in Manitoba which do flow, arise in Saskatchewan and flow into Manitoba. These include the Antler, Gainsborough, and the Pipestone plumb (ph) systems as well as others. We in Manitoba should be managing the water from these streams for our benefit, however the cost of dams, the land for the reservoirs, etcetera, is high in terms of our present agricultural economy. The money is available to build the Rafferty and Alameda dams, with over 50 million coming from the U.S. for flood protection, and more from Saskatchewan Power for cooling water. We in Manitoba can benefit from these reservoirs without costing us anything.

In conclusion, I would like to add my voice to those who say get on with Rafferty now. I realize that one could study something forever. At this point we need to make a decision, we have reached that point, let's build the Rafferty now.

MR. MILLARD: Thank you. George Godner.

GEORGE GODNER: Mr. Chairman, distinguished guests, ladies and gentlemen; my name is George Godner, I am a farmer at Antler, Saskatchewan and I have farmed there for 38 years. I am the representing the Rural Municipality of Storthoaks number 31. At Storthoaks I am the Reeve of the municipality, and have been since 1976. I am speaking on behalf of the R.M. of Storthoaks, which is approximately 35 miles from the proposed Alameda reservoir.

Our Council is unanimous in support of the Rafferty-Alameda project. We endorsed it not only for its capacity to provide specific water resource management, but also for recreation potential it holds for the area. We are deeply aware of the constraint of the Carlyle Lake due to both overcrowding and increasingly low water levels. The reservoir at Alameda represents a highly valuable alternative for us, one which we look forward to enjoying in the years to come. We welcome the opportunities for new cottage sites, water basins, recreation within easy drive of our homes.

The project also represents an investment in the vitality of our community. These areas badly need the economy and confidence that reliability of water can bring. With water we can anticipate new growth in irrigation, new investments in the area, some opportunities for employment, and perhaps to stabilize our population. We would like to keep our young families prepared, attract new residents to the area, and encourage them to build their homes there.

George Godner
Melita, Manitoba
Monday, June 26th, 1989

As it is about 50 percent of our population is over 50, our school is continually jeopardized as enrolment declines, and we face increasing uncertainty as far as medical services are concerned. Our nearest physicians are in Gainsborough and Redvers. The former has trouble in keeping a doctor, and there is concern that Redvers should be, should the two there choose to retire. Dental care is available one day a week in Redvers only. We cannot possibly hope to increase our ability to provide health care if we continue to lose our people.

There are very real immediate concerns for us, and we have identified the Rafferty-Alameda project as a means of rebuilding this corner of the province. It is our hope that in the federal view of this project, that larger pictures will be examined. We are confident that sufficient mitigation will be undertaken to ensure that the environment is protected, while the project ensures that we need our children make their future there. Thank you.

MR. MILLARD: Thank you, sir. We will take a five or so minute break.

(Meeting adjourned at 8:05 p.m.)

(Meeting reconvened at 8:19 p.m.)

MR. MILLARD: Can we come to order, ladies and gentlemen, please? Bill McKinney?

BILL McKINNEY: Good evening ladies and gentlemen,

Mr. Chairman, Chairpersons, thank you for this opportunity to say a few things of my views on the report, the project, and also I'll probably deal not so much with the data in the project, although it's good reading and good information, but probably more on my own views and a few of the views of my neighbours that happen to live along the Souris River in Manitoba. My farm is in the Souris River valley part of it, and most of my land is along the Souris River, and I have watched the river all my life with interest, and I always thought that a river should be an asset to a farm, and I am not so convinced that it is in all cases. In my case, it's probably a bit of a liability, it's so unpredictable.

I live at Waskada and Coulter, which is just half-way between here and the U.S. boundary, and it's a very flat portion of the Souris River, and we get -- I can recall, when I was a young lad, catching fish out of the Souris River and actually taking them home and eating them. Now, when I see a fish in my pasture or along the Souris River, I quickly bang its head on a stone to put it out of its misery because it's either dying or it's going to kill me or my family.

Now nothing, physically, has been done on the Souris River in my lifetime in Manitoba, so if doing nothing is the answer, then I beg to differ with those people that think it is. The river has gone from -- it's kind of like a wild child that you can't predict. It's either flowing nicely and you think you have got it under control, and then all of a sudden it's wild, and it's either too high for short periods of time, or most of the time it's too low. What I would like to suggest, what we should really look at, is what is required in this portion of Manitoba, and in Saskatchewan, and in North Dakota.

We need recreation very badly in this region. We only have two or three lakes between the Moose Mountain, Kenosee [illegible] and Oak Lake, and Lake Metigoshe, and most of them are filled up with cottages and full to capacity. We do need reservoirs to hold water for our young people to be attracted to, and to give them some encouragement to stay in the area. We need municipal water, we need flood control, we need domestic water, we need industrial water, and if Minot and other towns along the river don't smarten up here we are going to ruin it even further.

Now I don't think that the good things can come from just doing nothing or ignoring the problem on the Souris. Who should, and most likely is, the most qualified type of person to know what implications certain activities have on parts of the Souris? Is there a group of people that are smarter as to what should be done than a group of local interested farmers that have lived their whole lives along the river and that husband all the wildlife and the fauna and the plants and buy deer licences legally, usually every year, and take their shot at the buck, and miss some years and get them some years? Is there any group of people federally, or that live in Ottawa or in Washington, D.C., that can better tell us what to do with our river, or really what is needed?

So basically I am speaking in favour of the Rafferty-Alameda, although there are some concerns I have about it, and I have not resolved all those concerns yet, but basically I am in favour of it. It's a start in the right direction. It's not the end, it's the start. I hope to see, in my lifetime, many projects, not a whole bunch but many, the size of the Rafferty-Alameda which will enhance the manageability of the river. I think the key word was given by somebody else here, we have to manage the river or it's no good to us.

Right now we have dams that are located along the Manitoba portion, they are located about seven miles apart approximately, they were put in in the mid-'30's. I suggest that the Department of Highways are not the people to manage the levels in those dams. I think we can do a better job of managing what we have got, and if we can prove that, then we can certainly manage new projects.

One of the things that I appreciate are the data that the federal environmental people have put up here today and graphically pointed out, which has taken me days to read in this book, and I appreciate that, and they worked hard to get flow levels, purity levels in our rivers. The work, the volumes are immense, I think the data is excellent, except they are at a -- the federal bureaucrats, I believe, are living outside this basin, they don't feel it, they don't breathe it, they don't smell it. Even when it's at high water it has a nice smell. I think we can run our rivers and manage them much better if we have more local input into what projects get done when, and how they are managed and unfortunately, because of bureaucracies and what have you, we get a little bit too much involved, and we need their data, we need their input, but we really need the input of the local people and the business peoples that live along the rivers to actually create the facilities that are best for their regions.

So I compliment Saskatchewan on this initiative that they have been able to do. I don't know the legalities of it, maybe they are at fault in some ways, but I do know that if there is three or four more projects like that in my lifetime along the Souris River, and if they are managed properly, that I will be very happy, and my kids will be proud to live in this region.

Basically I am in favour of the project with some changes. I would like to see Manitoba -- and I am upset a little bit that Manitoba is not and has not been more involved in the, for whatever reasons, in the negotiations in the Rafferty-Alameda project as of this date. In our regions, we have examples that we should follow when we are doing things like this. We have conservation groups, we have the Manitoba-North Dakota zero till group, which has no money but it's come up with some good ideas and some new information and it's an international group, and even if you don't zero till you learn from being involved in groups like that. They have no money, they put things together and make them work so that everybody can benefit. We have got groups, our conservation groups, the local one comes to mind, Turtle Mountain Conservation Group, that has done some great things, has great long-term plans, and has made made a difference in the quality of life in our farms and in our communities, and they don't have a lot of money to work with.

So money is not the issue here. It's the will to put our thoughts together to agree to work with our neighbours and make it work, and if Saskatchewan builds a project that is going to hurt my farm, then they are going to have to pay for it, so they had better be prepared, and that goes the same with North Dakota. I think the sooner we create something like a group represented by interested parties from the two provinces, the State of North Dakota, that have the teeth and the will and the mandate to priorize projects that will be developed on the Souris River for everyone, for every -- keeping in mind everybody's concerns, then the sooner we can get on with making projects happen and bring them to reality without losing the benefit or some of the things that a few groups are opposed to. It has to work that way, because whatever good or bad happens in Saskatchewan, we in Manitoba are the beneficiaries of, and I don't think we should forget that. Just because it's good for one region, by the time it gets down to another region with certain things, if we don't co-operate and combine our efforts, then that project could very likely be bad in another region.

Unfortunately, manitoba has no alternative, we can't pass it on to anybody else except the world, and I don't think we are wanting to pass on pollution and all the bad that can come from projects that we develop on the Souris River, any more than I think that the North Dakotans in the Garrison some years ago would want to pass on the bad of the Garrison to their own North Dakota farmers in the northern part of their state, any more than they would want to give it to us in Manitoba. I think it's a little bit political, and the sooner we get representation locally that has the teeth and the will and the mandate to create things on a priorized basis, then I think we are heading in the right direction.

I am concerned about several things -- I will just be brief -- about the short-term deficiency and water flows entering Manitoba, of course we are, especially when we have got nothing most of the time. If I, and when I read the charts and I see 15 percent less water flow coming in as a result of the project into Manitoba, what's 15 percent less of nothing? I suggest that it's no different. I think that the fact that we are going to be less while Saskatchewan gets their project fully filled, that is offset by the dramatic reduction in the possibility of the big flood, which does a lot of us a lot of harm in many ways, and that it will even out the flows throughout the summer and the fall months, it will offset this, which is a great advantage to us. We need more constant flows at a higher level. We are in a region where we can actually benefit greatly and lose very little if we held the water flow in the Souris River between the 49th Parallel and north of Melita somewhere at possibly five to six feet higher than it is now during the summer months, and the water flows would not have to be any greater than 20 CFI's. I am just saying bring the body of the water up and hold the constant flow, but have more volume to run that constant 20 CFI's through.

I suggest that fish would live, livestock wouldn't be allowed to cross over rivers, people's property could be kept, managed properly, it would give us recreation and quality water, industrial water for the Towns of Melita, Hartney, Souris, etcetera, and so many good things could come about from just managing what we have better, and of course Manitoba will receive more water at a more constant flow over longer periods, and that's exactly what we need.

I view the Rafferty-Alameda project as the first major project among many, as I said before, that should be built. I am concerned that the story coming out of North Dakota is in regard to raising the dam at the U.S. border to hold more water in Lake Salyer or Salyer Refuge east of Westhope, and I would suggest that possibly Manitoba could get together with North Dakota and come up with a solution to have that in Manitoba. We must get on with the catch-up game of co-operating with our neighbours regardless of where they live.

MR. MILLARD: Mr. McKinney, you are getting close in terms of time.

BILL McKINNEY: Okay. The biggest thing that I see that should be done to restore my faith in my river, which I don't have much faith in any more at this point, we have got to manage our water better, naturally, but if we could institute a body composed up of representatives from local areas in and around the water basin from Manitoba, North Dakota, Saskatchewan and have some federal people on that committee to guide us and to give us the data that we need, that we could plan short and long-term projects to improve the benefits to the entire region, and not just to build piecemeal, each region unto itself, without any regard for overall long-range health of the entire watershed. I think that's our challenge. I think that's what we have to do.

It reminds me a bit of the free trade negotiations going on between the United States and Canada. They will work if the will is there to make them work, and the determination, and this project will work and be a stepping stone into the future for Manitoba projects, and possibly further projects in North Dakota, if the will is there to not do any undue damage to the other person, and if we took everybody's -- if we had this priorized list of projects in the mill, and I think that's something to think about, and I would like you to consider that in your negotiations. Thank you.

MR. MILLARD: Thank you, sir. Bill Morningstar?

BILL MORNINGSTAR: Mr. Chairman, ladies and gentlemen; my name is Bill Morningstar and I represent the Rural Municipality of Brenda in this brief.

In 1857, when John Palliser made his now-famous journey westward throughout the southern Canadian prairies, he drew out an area which to this day is called the Palliser triangle. John Palliser wrote of his journey that in the southwestern true prairie lands, there were large areas where limited and uncertain rainfall and lack of water could make settlement very difficult, if not impossible.

Years later Roy Brown wrote in his book, Steamboats on the Assiniboine, that in the spring of 1882 at Brandon the Assiniboine River was 40 feet deep and one mile wide, and a steamboat that was 200 feet long and 45 feet wide carried freight from Winnipeg to Brandon and back.

In 1908 Captain Large (ph) built a river boat called the Empress of Ireland. It was 66 feet long and 10 feet wide. It was built in the Village of Coulter, which is a few miles south of Melita, and it carried passengers and freight from Napinka to Scotia (ph), North Dakota. Why do I tell you all this? Because this is our history, and history has proven that there have been in the past, and will be years in the future, when there is no water in this country, and that includes the Souris River. There also have been, and will be, years when there is so much water that it causes havoc and destruction from one end of the Souris valley to the other.

What the Council from the Rural Municipality of Brenda foresee the Rafferty-Alameda dams accomplishing is cutting out a portion of the massive flood waters that can come down the Souris River in the spring of the year, washing out crops and destroying valuable topsoil. As a Council we can see many benefits from eliminating the flood or mud cycles from the Souris River valley. In the drought of 1988, had it not been for the gates at Lake Darling being opened to allow the water to run down the Souris River, the Souris River bed would have been dry. This water was pumped to many dugouts within a few miles of the river. Tanker trucks hauled it many miles to fill other farm water supplies. It also recharged wells along the river flats. Because of this water from Lake Darling, many farmers were able to keep their breeding herds of livestock, and are now able to utilize the precious rainfall that has greened the fields and pastures of southwestern Manitoba this spring. The Brenda Municipal Council has been left wondering why there is such an exhaustive study being carried out on the downstream of the Souris River valley? I have received a copy of the Limestone Environmental Impact Study. This is a new hydro-electric dam in Northern Manitoba which, by the way, is still under construction at the present time. I could not help but notice that in their study they say that if the trees that the eagles are nesting in are pushed over, the eagles will probably go to another tree to build their nest, or return when construction is complete. I think that this would lead one to believe that it is either the birds or the people who write the environmental reports in the north that are smarter than those in the south. The report also states that concerns for more downstream impacts will be addressed in appropriate studies pertaining to more downstream developments, but the construction goes on while the studies are being carried out.

We wonder why the difference between Rafferty and Limestone. Could it be that there is a game of politics being played in this valley to see which politician or environmentalist can fill his or her scrapbook first with headlines from the press, radio and television.

Being on a municipal weed board as I am, I could not help but notice that one of the rare flora of national significance in the Souris River valley, according to the IEE draft, is the Whorled milkweed. This flora of national significance in the Souris River valley also happens to be listed on the Manitoba Noxious Weeds Act. It is listed right up there with Toad flax, Poison ivy, and Leafy spurge. And I did slip up a bit because there is another one on that same of national significance called Witch grass that is also listed on the Noxious Weeds Act. I can assure you that if any of our local weed inspectors ever finds any Whorled milkweed or Witch grass, which is of national significance in our weed districts it will be, as the IEE draft says, extirpated.

According to the opinions of the vast majority of the people who live in and beside the Souris River valley, the Rafferty-Alameda dams project should go ahead as planned, and as soon as possible. After all, who knows more about, or understands better this valley, than those good people who are born, live, and make their living in the Souris River valley. Thank you.

MR. MILLARD: Thank you. Ron Renwick?

RON RENWICK: Thank you. Panel members, ladies and gentlemen;

My name is Ron Renwick. I represent several agencies, and wish to make comments in reference to the impacts concerning those agencies. I am a producer of beef cattle in partnership with my family, and we rent or own approximately five miles on the west side of the river in the first eight-mile stretch. We depend on the river valley for much of our grazing land.

I have been a member of the Rural Municipality of Arthur Council for more than 20 years. The Souris River flows through the entire length of our municipality. It enters at the U.S. border about the middle of our municipality, flows north to approximately the Town of Melita, which is close to the center of the north end, and flows out the northeast corner of the municipality. The valley is very fertile, varying from pasture to cultivated farmlands. The river provides irrigation, stock watering in the summer, and the source to fill storage in the winter, so you would understand that the people in our municipality are very dependent on the river valley.

I might also say, which has been indicated by the Mayor of the Town of Melita, that they have wells adjacent to the river which they also depend on for water supply.

I have been Chairman of the Souris River Water Commission for the past 15 years. The Commission is comprised of muncipalities in the drainage area of the Souris River in Manitoba. The members are elected by the residents, and represent approximately 20,000 people. Our concerns are water management, because the Souris River historicly has too much or too little water flows. Any reservoir would help to manage our river. I was Task Force Chairman of the Melita Task Force on the Souris River basin in the '70's. As well, I have been somewhat involved in the Garrison and the Burlington projects in North Dakota. I believe the comments that I am going to make are representative of the majority of the people in the above-mentioned areas.

We, the people, are impacted by projects on the Souris River because of our dependency on the river, and I would like to quote from the proposed classification of the Manitoba surface water:

> "The land within the Souris River watershed provides the base for a viable agricultural industry upon which the local economy depends. Water quality criteria must recognize the importance of this industry and ensure the compatibility with its current and potential production capabilities."

Ron Renwick
Melita, Manitoba
Monday, June 26th, 1989

Water quantity. Our problem is peak and duration flooding in the high snow melt and spring low flows other times. The project would reduce duration of flooding in flood years. It would also provide storage to supplement low-flow times. However, any direct impact would be mitigated considerably by the U.S. Fish and Wildlife in North Dakota, and I believe it states in the study that in low-flow times possibly some areas would be inundated longer, and I believe that the area that's indicated in that is the low-lying area from the U.S. border north. There is an area that runs about 4, maybe 4 1/2 miles from the U.S. border which is quite flat, and the flow at the border will handle about 150 CFS, and I think we have to expect that it would flood out there in times, and I think that most of the people that live in that area would say that it only grows burrs and reeds anyways, so it's really not a great problem.

Water quality. I believe the project would have very little impact on our water quality. The operation of Lake Darling and the J. Clark Salyer U.S. Fish and Wildlife would reduce most of the impacts in Manitoba. The Boundary Waters Treaty protects us, and I quote:

> "Boundary waters shall not be polluted on either side to injury of health or property on the other".

I don't think that it would be much different. We receive flows now from the City of Minot, and with the Des Lacs and the Souris refuges which include almost 100,000 acres, I am really not convinced that any change from Saskatchewan would reach us in this area.

I also think that the thing that the 15 percent that we are talking about of less water possibly would, if it was held from the floods, that we would notice very little impact in the low-flow times. I think that that, if it was managed properly, could be mitigated.

We have many people from outside our river valley very concerned about the environment in our area. We are also very concerned about the environment. Our livelihood depends on the protection of the environment, which will be enhanced by water management. The farm people live together with wildlife and the wildlife, in turn, depend upon the farmland for their food, etcetera. Interference from people who do not understand this relationship interfere with the balance of nature.

I also believe that the scenarios that were on the panels today probably do not reflect our present situation. Most of those scenarios were based on several years ago. Most of the drainage in the Souris River basin has taken place over the last 20 years and I think, in order to be reasonably accurate, those years have to be taken into consideration.

Waterfowl productivity, fisheries, fish habitat, etcetera will improve from water management over the long term, and I think we have to emphasize the long term period of time in order to do that. We are definitely impacted by the refuges to the south of us as far as waterfowl in this area, and as far as the fisheries are concerned, many years our river freezes to the bottom, and I am sure that regardless of whether we have more or less water it won't -- it can only help us if we can, in the long term, get some more water.

I was interested to note that Mr. Morningstar mentioned the Captain Large. When we talked about navigation on the river, it said that the Empress of Ireland was beached in the fall of 1909. She was used in the spring of 1910 for a short time, and then it was loaded on rail cars and taken to the Assiniboine. And I am assuming that that was the last time that we had navigation on this part of the river.

I think your report should include the impacts of the Burlington dam if it were constructed, and I guess maybe I should explain not only to you, I am sure you will hear it in North Dakota but many of the people won't be there tomorrow evening. Several years ago the U.S. Corps of Engineers were authorized to construct a dam in Burlington, North Dakota, and because of the impacts in the rural areas the rural people fought that project. They formed a very strong organization that became known as the Citizens United to Save the Valleys, and I guess one of the reasons why the rural area become so strong was because in the agreement, the U.S. Fish and Wildlife were to receive two acres out in the farmland for every acre they lost in the valley, and as I indicated before, the Souris and the Des Lacs River valley, the U.S. Fish and Wildlife own almost 100,000 acres, so because of that, then the rural people didn't know who was going to lose the land, they formed an organization that was very strong, and of course they fought the City of Minot over that issue. Finally the powers to be sat down and they agreed to shelf the Burlington project and work towards a project someplace else to benefit the City of Minot and their flood control problem, and ladies and gentlemen, that's basically why the U.S. has decided to buy flood protection in Saskatchewan in the Rafferty and the Alameda projects.

MR. MILLARD: Mr. Renwick, you are running close to your time.

RON RENWICK: Thank you. If the 41 million U.S. were not included in the total project, then the total project would not be constructed.

If the project were not constructed, possibly the Burlington would become a reality, and I would like to quote from that report which will explain the impacts on Manitoba:

> "The Burlington dam and reservoir feature of the project was authorized by the Flood Control Act approved December the 31st, 1970. The plan provided for a dam on the Souris River one-half mile upstream of its confluence with the Des Lacs river. The reservoir designed pool elevation was set at 495 meters and the reservoir release rate would be regulated so that, when combined with the uncontrolled Des Lacs River flows, a total discharge at Minot would not exceed 2,300 CFS. The flow below the dam would be continued until the reservoir was emptied which, with a full pool of 786,000 cubic decameters, 637,000 acre feet, would require a period of about 180 days. With this plan in operation the dam and the channel modifications provided for control of the Souris River, with the expected 150-year frequency of occurrence from the area above the dam. The impact of the reservoir storage and releases and possibly the need for mitigation measures in Saskatchewan and Manitoba were not addressed in their authorizing document."

This project would destroy our river valley. At Melita, the channel capacity is approximately 1,400 CFS, somewhat lower both north and south, the Lauder area I believe it's around 1,100 or even less, particularly in the growth season.

On November the 5th, 1969 the board commented to the Commission as follows:

> "The operation of the Burlington reservoir would lessen the flood peak levees in Manitoba to her benefit. However, the plan of operation envisualizes the release of the stored waters at a rate of 1,900 CFS throughout the whole of the summer and the fall following the very large flood. This flow, superimposed on the natural summer flows below Burlington that will occur in a wet year, may or may not exceed safe channel capacity in Manitoba. The board does not have sufficient data to access the effect of this possibility."

Emile Lalonde
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I believe we must support the Rafferty-Alameda project to eliminate the Burlington being built. I have 100 percent support from the Souris River Water Commission in this respect.

I also represent the Western Region of the Union of Manitoba Muncipalities and received unanimous support at the Mayors and Reeves meeting in Souris on May the 18th, 1989. That area includes approximately 65,000 people.

I would like to take this opportunity to thank you for this opportunity to speak and for holding the hearing in this area, in Melita, giving the residents the opportunity to voice their concerns. Thank you.

MR. MILLARD: Thank you, sir. Emile Lalonde?

EMILE LALONDE: Mr. Millard, Mr. Burns, I am from Estevan, my name is Emile Lalonde. I was, I regret to say, a dairy farmer.

For years my wife and I operated a dairy farm about a mile from the Souris River. Our biggest problem, flood or drought. Although our house was sufficiently high not to be affected, hay crop was always at a risk. The valley hay was either flooded out, overcome by water-tolerant species that our cows wouldn't eat, or just dried up because there was no water at all. If we were still in business, we would be trucking hay again this year.

The opportunity to sell our land to the Authority helped my wife and I in making a very painful decision about how we wanted to spend the rest of our lives. Certainly, we saw no future for our family in living the way we were, yet it hurt to walk away. In deciding that we didn't want to go on, however, we also recognize the enormous potential of this project to help other people who are faced with the same struggle we fought for so many years.

Had our circumstances been different, our land in a different place, this project would have changed our lives. And here I would like to elaborate Mr. Chairman, I think, in appreciation to someone downstream.

See, I am a dairy farmer and I don't get away from behind a cow too long, but I was anyways, we were tied down pretty good, but somebody downstream had the good common sense somehow to manage this water, and consequently most of the hay in our area, and I speak for an area southwest of Estevan that have trucked tons, and tons, and tons of hay from Melita from an irrigation plot, and I would like to take my hat off to that gentleman or the people who are responsible for that.

No one knows better than we do what a huge difference a reliable water supply can make to dairy producers or any other farming operation in the area. The project comes too late for us, but I am committed to see it proceed, because I know that it will help others. Given water, other farmers can offer their sons and daughters an opportunity to stay. I couldn't offer that to mine. Water can bring confidence in the future. It represents an investment in our children and in our communities. We, my neighbours and I, feel that we have paid for these dams and reservoirs many times over. It's time now to build them.

I have another point to make. It has to do with being essentially a single-income economy. There have been many times in this, and this is one of them, when the opportunity to take on additional work would have helped many farmers in the area. We don't qualify for UIC the way fishermen in the Atlantic Provinces do. When they have a bad harvest government foots the bill, augments their income through UIC. When we have a bad harvest, we lose a crop, have to sell our herds, there is nothing, not even a job to help even things out. I am not suggesting that farmers here want a free ride, or anywheres else. We know how to work hard, and we have always done so, but you can't work if there are no jobs. Rafferty-Alameda will trigger many new jobs.

The opportunity to diversify this economy rests within Rafferty and Alameda. It will give us jobs, it will give our children jobs, and it will strengthen the rural fabric of this area. I urge this hearing to allow the project to proceed. Thank you, Mr. Chairman.

MR. MILLARD: Thank you. Gerry Morrow?

GERRY MORROW: Mr. Chairman, Mr. Burns, ladies and gentlemen; my name is Gerry Morrow, I am representing the Melita and District Chamber of Commerce.

The Melita and District Chamber of Commerce has been in favour of water conservation and utilization for many years. We supported the concept of dams on the Antler River and the Gainsborough Creek when they were being studied several years ago. In a semi-arid area such as the Souris River basin, water is of the utmost importance, and we should retain and utilize this water for the benefit of all people concerned in Saskatchewan, North Dakota, and Manitoba. Our chamber supports the construction of Rafferty and Alameda dam projects, and would hope that the Government of Manitoba would give more consideration to planning and construction of reservoirs in this province's section of the Souris River and its tributaries.

Environmental concerns certainly need to be addressed, but we have not been convinced that this has not been done. We in Manitoba have no direct financial stake in the Rafferty-Alameda projects, but we are concerned about the added costs of the projects caused by the court-ordered shutdowns. Hopefully, the end result of these hearings will show that they were necessary, and not the result of frivolous action by one or more organizations.

Economic development, quality of life, preservation of the environment, and proper utilization of our natural resources are what our Chamber of Commerce are striving for. Mr. Chairman, we wish you well, and hope for a speedy resolution to the problem facing you.

MR. MILLARD: Thank you. Wayne Drummond?

WAYNE DRUMMOND: I must be a popular guy, Mr. Chairman, my name is down twice, but my previous speaker, Mr. Renwick, he covered part of it on my behalf. Like I am listed for Water Commission, but my presentation is going to be just on my own behalf.

My name is Wayne Drummond. I have lived for 40 years along the Souris River and I have farmed there for 23 years. I am giving this presentation on my behalf as a person with a close interest in the Souris River. I would like the members of the evaluation group to know that I am totally in favour of the Rafferty-Alameda project.

In the years that I have lived beside the river, I have noticed major changes in the watercourse. It has been reduced from a major water artery to a trickling stagnant ravine which has little or no water in a lot of areas during the summer. I believe that the Rafferty dam will be the first step in Canada to better manage the stream. Since Canada has to pass 50 percent of natural runoff water to the United States, at least we will be able to keep half, instead of next to nil, to use the balance of the year.

Living in Manitoba, we are not going to see many direct benefits from the project. Certainly, we will see some minor flood control of the project if the project is managed properly. The past year, 1988, was the worst drought year that I can remember, yet the Souris River still flowed through the summer by my home because of water releases from the reservoirs in the States. Another major reservoir like Rafferty could only ensure that Manitoba will retain a flow during the summer.

We receive only 20 CFS from the south, which is not enough to keep the channel clean of algae. From the summary of the Initial Environmental Evaluation, I understand we could see a 15 percent reduction of water in Manitoba while the dam is being filled, but will stabilize once it is full. Hopefully, with the additional water storage, Saskatchewan and North Dakota may work together to increase the flows in the summer months to clean the system.

Indirectly, Manitoba might see benefits in rainfall, I pray. Evaporation from the reservoir returns to us as rain because of our prevailing westerly winds.

I do not believe the project will have any major impact on fish or waterfowl. We seem to have enough of fish we cannot eat at present in the summer, and waterfowl, we have plenty of waterfowl in the fall if we do have a wet year. Hopefully, it will improve if the summer flows could be increased in the future.

My only concern with the project is that Manitoba retain the quantity and hopefully better quality water than it has presently in the Souris. I think the Rafferty-Alameda project is a good plan and should be completed as soon as possible. Thank you for your time.

MR. MILLARD: Thank you, sir. Duncan Stewart?

DUNCAN STEWART: Thank you, Mr. Chairman. Good evening ladies and gentlemen. I am Duncan Stewart and I am here tonight on behalf of the Manitoba Group of the Sierra Club of Western Canada.

The Sierra Club is a non-political, non-profit environmental organization devoted to the study, protection, and enjoyment of the Earth's scenic and ecological resources. It was founded in the United States in 1892 by John Muir (ph). It has grown to a membership of half a million people in the States, and is becoming more and more popular and useful here in Canada as interest and concern over environmental issues starts to play a major part in people's lives.

We are, for the most part, opposed to the construction of the large dams such as are being considered in the Rafferty-Alameda project. We are opposed to them on general principles, and we are opposed to Rafferty-Alameda for a number of specific reasons.

Generally, although it has only been 60 years or so since the first big dams were built, the evidence that has been coming in is most unfavourable to their continued construction. The reasons given for building these dams have changed very little in the intervening years. They are the reasons being given today for Rafferty-Alameda, and they are not doing too well in the fairest court of law, the court of father time.

Large dams are supposed to be an economic lifesaver to the areas involved, but there has never been one built yet that will ever pay for itself. Surely, they are a great short-term employment opportunity for construction workers and a bonanza for local merchants, but politicians and civic leaders with integrity and intelligence are never misled by short-term advantages when a proposal has long-term harmful effects, and no large dam has ever paid back its cost of construction or ever will. When you add the silt factor to this equation, the capital cost deficit looks worse than ever. This means, as you know, that every dam ever built will eventually silt up and become a mud reservoir, some sooner and some later.

This project proposal has generated divisive debate, but I believe that those who feel they would be hurt by the dam's shutdown are quarreling with the wrong people. I believe their quarrel should be with those who began this operation prematurely, without the necessary and required independent examination. All those of us who have argued against the project have done is try and stop the long-term detriment to the quality of life in the Souris River basin we feel it would engender.

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Sometimes it seems as if the only methods for the advancement of our communities that can be thought of by our leaders are those which involve the destruction of an essential part of the environment of that community. These methods have to be counterproductive in the long run, and show a leadership bereft of imagination and ideas.

Irrigation is another benefit promised by dam builders, and indeed, all of us know deserts that have been turned green by the waters from some huge reservoir. How many of us realize, though, that an increasing number of these emerald areas are yielding to salinization and will soon be permanently useless, and how many realize the water the farmer bought to work this apparent miracle is always subsidized to ridiculous degree.

One example. Water in a central valley of California, water that costs at least $30.00 an acre foot, is selling to farmers for anywhere from a low of 2.50 to a high of 7.50 an acre foot. Without exception, farmers who use irrigation water delivered from a large dam like Rafferty are accepting money, government money, on a scale that would make any third-generation welfare family in any of our cities hang their heads in shame. I wonder if Saskatchewan taxpayers are in the mood to play Santa Claus year round.

Large dams are invariably environmental disasters. How can anyone say that it is possible to bury a beautiful river valley for over 30 miles in the estimated depth of water and have no serious effects? The valley will be destroyed for as far above the dam as the reservoir goes and it will be altered in a great number of ways, many of them as yet unknown, for as far below the dam as the river runs. Nor will mitigation change this fact. When will we ever learn that it is a far better idea to avoid the necessity for unsatisfactory, always second-best mitigation, by avoiding the destruction in the first place? Speaking of mitigation, this is a great example of a good word used in the wrong place. It means to soften, to make less harsh. The use of such a word shows that the dam builders and the wilderness builders have no idea of the basic reasons for our opposition to their destruction, for it is not only the fact that their handiwork makes this or that area less attractive to human beings that we deplore, serious and short-sighted though this is, it is also the fact that it removes forever from a dwindling list of the earth's good places one more river valley, one more corner of unspoiled nature, and how do you mitigate a death?

Flood control is another reason cited by dam builders as a great benefit from their business, but this advantage has one important drawback, it doesn't seem to be working. In The Social and Environmental Effects of Large Dams, the authors state that in 1937, just as the large dam era was beginning, floods cost the United States $300 million. In 1976 the figure had risen to 3.5 billion. They quote the Chief of the Illinois Water Survey as saying that by the turn of the century floods will cost their country $9 billion a year. Flood control dams on every trickle of water in the States and flood costs skyrocketing, so it appears that building embankments to control floods is not working, could even be making them worse because when one does get over the banks it is a good one. For, you see, dam builders have historically faced the dilemma if they allow the reservoir to fill, there can be no flood protection or water conservation for anyone, if they do not the irrigators and the water skiers and the hydro producers and the coal-fired generators are on their backs. It's almost enough to make you feel sorry for them, but the river managers should know that when you try to sit in for mother nature, you need more going for you than an engineer's degree.

So instead of building these dams that are not working, let's do something that will. Let's stop encouraging farmers to drain every pothole they have on their land so it reaches the river as quickly as possible. Let's start actively discouraging them and make it attractive for them to stop up the draining they have already done. How many programs like this could be paid for with a fraction of the cost of these dams, and how much more effective would they be in flood protection and water conservation.

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And while we are at it, let's start calling a spade a spade and admit that it is just foolishness to build your home or your business in the floodplain of a river, especially one like the Souris that has been well-defined for hundreds of years. Surely it looks bad for the citizens of what is undoubtedly the free enterprise center of the world and the home of rugged independence to sit and howl for government help to pay for their own mistakes. Maybe rugged independence works better some days than others. Maybe you can live with that if you can talk another government into doing your dirty work for you.

I hope I am not starting to sound anti-American. I can tell you I most assuredly am not. I was born in North Dakota. I live half a mile from that great state. I have a daughter and a sister who were fortunate enough to have married Americans. I can only say from personal experience that they produce perfect grandsons, make hard-working sons-in-law, generous brothers-in-law, and friends that are second to none. But there is one thing about Americans that you should know.

If they are members of the Corps of Engineers, you do not ask them how to treat a river, for the Corps and their rival cousins, the Bureau of Reclamation, do not like rivers. They have choked and diverted and otherwise tamed into submission almost every river in the continental United States until even their own countrymen are fed up with them, and it is almost politically impossible to build a large dam in the States any more, so who can blame them if they cast envious eyes northward where we still have a few rivers. Just let's not forget that they are our rivers, and that we have different ideas from theirs about how to look after them. Water conservation. According to some, these dams are being built to conserve water. Knowing that to impose water conservation in the southern prairies means instant defeat for their cause, it is here that the dam builders enter the fuzzifying field of Orwellian news speak, for how do you conserve water by destroying a river, the definition of water, and replacing it with a reservoir of stagnant semi-sewage and a system of tame canals. Who gets to decide how you mitigate that?

How much better off would we be to spend $125 million to try to restore the river. I know in this era of high technology, quick fixes, and throwing money at problems only changes in attitude will solve, that a suggestion like this will find little favour with our leaders. But sooner or later, we will have to realize that the earth is not our enemy, that her systems are designed to work for millions of years if we would leave them alone, that we will have to change to adapt to her laws rather than try and change her to suit our whims. Maybe we will learn these lessons in time to ensure our long-term occupancy on planet earth and maybe we will not, but I can promise this, there are a growing number of people who accept their logic.

We are tired of having our air filled with pollutants from coal-fired generators, we are tired of having our waters poisoned and dried up by our interference and tinkering with natural systems that need no improvement, and above all we are tired of politicians and civic leaders who tell us this is for our own good and inevitable because it is progress.

Tell the citizens of the United States about progress when its fruits have left 100 million of them, almost half their population, living in air that is unfit to breath. The only way that they will restore much of their country to a state fit for human habitation will involve methods so draconian and taxation so severe that a great deal of human misery is bound to occur. We have a perfect example of how not to do things a short car ride away. Let's not fail to take advantage of that.

And maybe this is as good a place as any to give warning to the full-speed-ahead developers that their era is coming to an end. Those who would dam all our rivers and cut down our forests and wantonly pollute our air and our water are going to need to justify their actions to all the people. Political ambition and ordinary greed are not going to be good enough reasons to destroy the natural heritage of our children and our children's children. We are sickened by the collosal waste and mismanagement of our resources epitomized by such schemes as the Oldman River dam in Alberta and our own Rafferty-Alameda, and I believe we have the votes to do something about it.

Most of you have gathered by now that I don't like these dams. In summary, they would be disastrous for the environment and wildlife of the Souris River basin, they would take years to fill if they ever fill, and would lose up to 75 percent of their annual inflow to evaporation. The short-term economic benefits of their construction would be far lower than the long-term losses they would incur. Shand doesn't even need Souris River water, it would be a major pollutant of our as-yet pristine prairie skies, and the power that it produces is available for half the cost from Manitoba. The effects this project would have on Manitoba is almost unknown because no one has studied them as yet. The irrigation advantages ascribed to the dam are not benefits at all, but liabilities, it is very unlikely the dams would be useful for flood control in Minot or anywhere else, and water conservation is a bright red herring.

So with all these strikes against them and more, why would anyone consider building these dams? Well to a certain type of politician and a certain type of bureaucrat and every type of dam builder, there is one very good reason. The Rafferty reservoir could be part of a very efficient plumbing operation to export water to the United States. If a trench was dug through less than 100 miles of easy-working Saskatchewan clay, the Souris River basin could be linked with the runoff from the eastern Rockies. That this would ever happen has been denied over and over again by those in authority, but based on past experience, how much credence can we put in these denials?

MR. MILLARD: Mr. Stewart, you are running out of time.

DUNCAN STEWART: Given the weakness of the arguments advanced by the proponents for the dam's construction, one would almost think better of them if they did admit such a plan. At least it makes sense. And doesn't it make all the more necessary a full-scale application of the full environmental assessment review process, for remember, that is all we are asking for.

I would like to ask the Saskatchewan Government just what is their hurry? If it is such a good idea to build these dams now, it will still be a good idea next year, or in five year's time, or after however long it takes to complete a proper study by independent and expert examiners and if, as we believe, it is a bad idea to build them, hadn't we better find out before it is too late? There has been, in the past few years, not much reason for optimism among those who believe as I do, who have had to watch impotently as those in control of our country's resources were first in the long line of predators upon them, but there is real reason for hope on the horizon now as we see a stronger Environment Act being strengthened again, as we watch a Minister who appears to have the political will and courage to act as well as talk. The resolution of the Rafferty-Alameda project controversy will be carefully watched continent-wide as the first concrete proof of the sincerity of his environmental convictions.

I will close with another quote from The Social and Environmental effects of Large Dams:

> "There is clear evidence, unpalatable as it must be to some, that building large dams is not an appropriate means of feeding the world's hungry or providing energy or of reducing flood damage. To conclude otherwise would be to accept as largely expendable the flora, the fauna, the population, and the land itself, the whole area affected by the dam, simply to further the political and financial interests of a very small minority. In light of today's knowledge it is clear that the building of large-scale water development schemes can be justified to an electorate and to the world at large only by systematically covering up, as governments and their advisors have shown themselves adept at doing, their true implications."

End of quote. Let's take a long look at other people's mistakes while there is still time to avoid making them ourselves. Let's insist on a full-scale environmental assessment for the Rafferty-Alameda project. Thank you.

MR. MILLARD: Tony Sereggela?

TONY SEREGGELA: Good evening Mr. Chairman, ladies and gentlemen; my name is Tony Sereggela. I operate a business in Weyburn and I was raised in Estevan, so I would like to fill a few people in.

My family moved here from Greece, or should I say my parents did, my father in 1954 and my mother came in 1959. My father moved here for a reason. We had 265 acres of the best farmland in the most fertile valley in all of Greece, but there was nothing on it. The biggest reason was there was no water. So what my father had to do was he had to beg his uncles to send him over here. When he got here, he started working and every little paycheque he got he started sending money back to Greece. With the money he sent back there, the first thing they did was drill a well, but not just one well, they drilled three, because it doesn't matter if you have the most fertile land in the world, you can't grow anything if you don't have any water. I go back there every two years since I turned 16. Now I am 28 years old, and I have been back there five times.

In that time I have seen what my father has accomplished but I have also seen what his neighbours have accomplished. My father right now owns enough over there that we could go back to Greece tomorrow and live very happily, but that is because he drilled the well, not just one, but three. Right now he doesn't just own his land, he has managed to buy more, because the water that he has he in turn sells to other people. I guess what I am getting at is; if my father didn't have to come over here, I wouldn't be here right now, if we only had the water. It's tough to say he would not have accomplished it over there, but when I drive down the back roads and see what my father has done in Greece and what he has accomplished, it's very simply this: You can tell which land my family owns, and other people who have come over to Canada or United States have owned, because they could afford to drill wells, and they have the water, and they are the ones that are growings the trees.

All the neighbours next to him don't have anything on their land. Sure it's appreciated and it's worth ten times the money it was ten years ago, but it's not growing anything, all because of supply and demand. If you have the water you can accomplish things. Right now, my father has probably the best acreages in all of Greece. We grow a lot of oranges. A couple of years ago, as a matter of fact, we had to dump them. Too many oranges in the world nowadays so we have to dump them. We get about as much money for our oranges as farmers around here get for their wheat. It isn't that much nowadays. I am not saying that farmers are doing anything wrong. They are not. Just doing a very good job, and I am sure if I had my best interests at heart, as I do now, I would be voicing my opinion that water is a very important natural resource. We watch it run away every day.

When I was 16 years old I remember we got called out from school. I was down at Roche Percee sandbagging beside some of my friends' house just to keep the water in the river instead of flooding into the homes. I can remember that, and I was pretty young. Imagine how many other things a lot of other people around here can remember.

It's pretty simple to say that you are damming it only for the purpose of flood control. That is a good enough reason in itself, and maybe a few have to lose in order that more can gain. If we are going to get historical, President Kennedy once said it's not what the country can do for you, it's what you can do for your country. In theory, it's not what your community can do for you, it's what you can do for your community. It's very important that the people realize some people have to lose in order for other people to gain. The winner in this, the big winner in this, is everybody in the Souris basin. We have waited a long time for this dam, before my time even. If we don't get it now, and if we don't get Shand and don't get a lot of other things, we won't see very much of anything.

Tony Sereggela
Melita, Manitoba
Monday, June 26th, 1989

A lot of kids I graduated with ten years ago have moved. They are gone. They don't care much what happens to Oxbow, Alameda, Roche Percee, or any other small communities in our area. They are all gone, gone to Regina, Saskatoon, out to the coast where it's really nice, maybe even down to California. And you remember they have dams down there. That's where we get all our tomatoes, fruit, lettuce and vegetables during the winter. The most fertile places in California are all there because of irrigation. I am not saying we are going to be the same way. We don't have the same growing season, we don't have the area's growth, but give us an opportunity. You don't know what can happen in 10 or 12 years. If we don't build a dam, we don't get Shand Power Station, we don't do a lot of other things we won't have anything, and kids my age who are going to live here because they choose to won't have anything either. If we look to our future, maybe we will better be able to make our community a better place to live. There is lots of times I have said hey, what am I doing here, there's lots of nicer places in the world to be living. But that's not it. I took out, now I want to put back into the community. I just hope everybody else feels the same way.

I came over here to Melita to present my brief because I wanted people in Manitoba to know how I felt. I gave the same brief at the Board of Inquiry in Oxbow in the fall of 1987, so in Saskatchewan they all know how I feel.

I know you have some concerns about Saskatchewan keeping its share of the Souris water, but I think you would be better off here in Manitoba too. Our dams would cut down on your flooding, and it would be possible to release the water during the dry times when you need it. North Dakota would have to co-operate with us, but I think that that can be worked out all between us. In the long run, you would be able to have better, more reliable flows in the river in Manitoba.

As I understand it from reading the papers, you have two concerns. One is water quality, the second is water quantity, and if your part of the Souris River is like ours the water quality could hardly get worse than now. When we have no runoff, it's terrible. There is sewage effluent from the cities, and towns dump in it. We have fish kills, algae, and the smell in the Woodlawn Park in Estevan. I hear your part of the river is much the same way sometimes. When ours and North Dakota do get flushed out, you end up with it here.

I have been told by the people in the Souris Basin Office in Estevan there will be new, improved water quality objectives with the dams in place. This would be better for all of us.

Your second concern for water is quantity. Just like us at Weyburn and Estevan, you get too much water or too little. The poor water quality goes along with the low flows or no flows. With the dam in place you will have fewer times when there will be no flow, and you will get better flood protection.

If we don't get these dams in Saskatchewan, North Dakota will have to do their own flood control for Minot, and they would raise Lake Darling or build Burlington dam. Either way, you wouldn't get the same benefits in Manitoba as you would with our two dams.

We know you people know what dams can do for you. The Lake of the Prairies reservoir on the Assiniboine River was built for flood control. It's a great recreation and fishing spot now. Our reservoirs would be the same. The Alameda reservoir will only be a half hour's drive west of here. We have heard talk that you even plan to build your own dams on the Souris River to catch and hold the waters that flow down the Antler, the Gainsborough, and the Pipestone Creeks from Saskatchewan. I think that would be good too for your young people. Just like for us in Saskatchewan, water in the reservoirs would give us new hope for the future here in Manitoba. We wouldn't have to suffer through the droughts and the floods like we do now.

Tony Sereggela
Melita, Manitoba
Monday, June 26th, 1989

A lot of us younger people don't want to go to the big cities to look for work or collect unemployment. We want to stay where we have friends and have a chance to make something of ourselves and our communities.

I am here in your province to ask for your help in building these dams. I am asking you, as a sister province, to consider our needs and help our old people and our young people to realize a dream that we have kept alive for years. Help us tell Environment Canada that we are in this together and you share our dream together. Thank you very much.

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Mayor George Christensen
Minot, North Dakota
Tuesday, June 27th, 1989

Transcript of Proceedings

(Meeting commenced at 7:00 p.m., Tuesday, June 27th, 1989)

(Opening remarks of Mr. Wright, Mr. Burns and Mr. Hood not taken or transcribed)

MR. WRIGHT: We are now going to hear from our fine Mayor, George Christensen, speaking on behalf of the City of Minot. George?

MAYOR GEORGE CHRISTENSEN: Thank you, Mr. Chairman, Mr. Burns, Senator Burdick, Lieutenant Governor Omdahl, and other guests; Over the past 20 years the City of Minot and the entire Souris River valley have suffered severe, extensive, and traumatic periods of flooding. In 1969 more than one-third of the City was flooded and 12,000 people were forced to leave their homes for 40 days and 40 nights. Many rural residents in the valley were forced to move, businesses closed, churches, schools, parks, and every segment of life in the valley was affected. Minot was bisected by a one-mile wide lake with only a man-made causeway connecting the two remaining hillsides. Believing that a picture is worth 1,000 words, I have arranged for a five-minute video tape of the 1969 flood, including comments of people who were affected by that tragedy. Dave? (Video tape presentation).

Everyone is a victim of natural disasters like the one you have just seen, so all sensible people strive to protect against such events of nature. As one who has seen his basement walls cave in and one who has moved out four times because of the high water, I know whereof I speak.

We have been trying to reach a satisfactory flood control solution for the past 20 years. When the Province of Saskatchewan proposed to build two dams for water management purposes and allow the United States to purchase flood storage behind these dams, it appeared that our prayers had been answered. Recent events have dimmed, but not extinguished, the ray of hope that was presented by our northerly neighbours' construction project.

Floods and threat of floods have been with us for decades. With the flood control program in place, the residents of the valley would be able to relax as the snow melts each spring and would not have to face the dismal prospect of again moving from their homes. Businesses would be able to plan for normal operations. Schools, parks, and public facilities would not be affected.

As a tangible example of the support for flood protection, allow me to file with you, as a portion of the record of this meeting, the written comments of some of our citizens. Included are letters of support for the Rafferty-Alameda from our entire congressional delegation, our Governor, the State Water Commission, water management boards throughout the valley, cities, townships, associations, service clubs, churches, school boards, and from many individual citizens.

We recognize that water management is extremely important to this semi-arid region. We also recognize that our neighbours to the north have the same climate and the same set of water management problems that we do. For that reason, it did not surprise us to learn that Saskatchewan will build water storage reservoirs with or without us. We have the opportunity, now, to purchase flood storage behind these reservoirs and fulfill a lifelong dream of harnessing the Souris River.

We feel that the beginning of a solution of complete water management is within our grasp. Water management is possible if people co-operate. There is a way to solve the problems of nature and the human environment which enjoys the fruits of nature. We must be sensible, we must be reasonable, but we must not lose sight that we are here to serve the needs of people. This is a once-in-a-lifetime opportunity for the Souris River valley. We must not lose it.

Senator Quentin Burdick
Minot, North Dakota
Tuesday, June 27th, 1989

Thank you for allowing me to express our support for the project. If the Minister has any questions of us, please don't hesitate to ask. And again, thank you very much for coming to Minot.

MR. WRIGHT: If any of you folks want to sit down, there are quite a few chairs up in front. If anyone wants to move up, that's fine, you can come right up.

Right now we have the Honourable Senator Quentin Burdick. Senator Burdick?

SENATOR QUENTIN BURDICK: Mr. Chairman, friends on both sides of the border; I am here to show my support, my full support for the United States to pay Canada for flood support storage Rafferty-Alameda project.

This project shows how co-operation can meet the water resource needs of two international neighbours; co-operation between Saskatchewan and North Dakota; co-operation between Canada and the United States; and co-operation between the Corps of Engineers; the Fish and Wildlife Service; and the Environmental Protection Agency.

I regret that the debate over this project in Canada has delayed the final agreement between that country and the United States for the provision of flood storage space in the project. An open debate over issues remain the most striking visible sign of an open democratic society.

I hope that the current debate in Canada concludes that the Rafferty-Alameda project is in the best interests of Canada. I say this because we must not lose sight of the fact that this is a Canadian project. We, in this country, are prepared to pay for the provision of flood storage space in that project, because frankly, it makes sound economic sense. If the Canadians proceed with this project the United States is prepared to pay for the added flood storage space which would give this community the protection from flood waters which has been sought for decades.

Let me outline briefly where we are in Washington on these negotiations:

- First, there is a signed Memorandum of Agreement between the Corps of Engineers and the Fish and Wildlife Service concerning wildlife refuge management issues;
- Second, the Corps expects to issue a final Environmental Impact Statement soon, and I have asked that they expedite this process;
- Third, the Environmental Protection Agency has reviewed the draft Environmental Impact Statement from the Corps and the EPA does not oppose the payment to Canada for the flood storage space;
- Fourth, all the agencies of the United States are in accord on the language of a draft final agreement with Canada on the payment for flood storage space;
- Fifth, Congress has appropriated more than $40 million for this effort to date.

In short, when the Canadians are ready, we are ready. Thank you.

MR. WRIGHT: Thank you Senator Burdick. The next gentleman gives me a great deal of pride, and I am very proud to introduce our Lieutenant Governor Lloyd Omdahl. I served under him on our committees last year. Lloyd Omdahl.

LT. GOVERNOR LLOYD OMDAHL: Thank you, Mr. Moderator, and guests from Canada, Senator, Mayor; for the record, I am Lloyd Omdahl, the Governor of North Dakota because George Sinner is in Minnesota, but he knows I am here, and there aren't too many things I can think of that I can do while he's out of state that he can't correct when he comes back, but we could proclaim this Bev Burns night in North Dakota and let it go at that.

Lt. Governor Lloyd Omdahl
Minot, North Dakota
Tuesday, June 27th, 1989

We want to thank you, Mr. Burns, for having one of your six hearings in North Dakota. It's a symbol of friendship that has continued between Canada and the United States for many, many years, and we haven't had designs on you, and you haven't had designs on us since the war of 1812, so we have a long-standing friendship which is even beyond our memory. Since we get along so well, perhaps we could move the Peace Garden, since it is not as necessary between Canada and the United States as we thought, and it's really more necessary on the North Dakota-Montana border.

There are serious considerations that have been raised by Environment Canada pertaining to this Rafferty-Alameda project, and these considerations require serious thought, and though some of us are anxious to get the project going, at the same time we must not rush into matters that are of a permanent or long-standing impact. At the same time, I think there are very few things we can do in life where there aren't pros and cons, and in this case those of us in this part of the country, or this part of the project, feel that when you weigh both sides of the equation, that there is a preponderance of evidence moving in favour of doing something.

We are, of course, concerned about habitat. We are concerned about animal habitat, bird habitat, and the native plants, but we are also concerned about people habitat, and I think that the video tape that was shown to us demonstrates the environmental damage that can result to people habitat, because we have seen flood damages to people's homes and livelihoods and their memories; flood damages to schools, streets, parks and utilities; flood damages to wooded lands and other habitats; and water quality degradations that result from floods. And so there are those kinds of environmental consequences as well.

We have tried, in North Dakota, to resolve the flood problem on the Souris River for many, many years and have been unable to come up with a politically-acceptable reaction. In fact, when there was a proposal to raise Lake Darling, some people were selling square inches of land to multiple land owners hoping that it would make condemnation so cumbersome that it would not take place. So this has been a matter of great concern to our state, as to how we are going to solve this problem.

With this proposed project and the co-operation of the United States Government in bearing some of the economic costs for the benefits that we stand to gain, we see this as the best chance to solve the flooding problem. We will have adequate protection in 100-year flood control program, and it will be a flexible program that allows for basin-wide water management. At the same time, I think the environmental review must be thorough, it must be fair, it must take into account the impact on all living things.

This is the best opportunity to solve this age-long problem that we have. We have the momentum in two nations; we have the momentum in two provinces and this state; and we have the co-operation between agencies that are not necessarily known for their co-operation. We have substantial consensus, at least on this side of the border, to proceed.

All the consequences that we can possibly mitigate need to be mitigated, but all things considered, it is our feeling that the Alameda-Rafferty project ought to be carried out. Thank you very much.

MR. WRIGHT: Thank you Governor. Next on our agenda is Representative Orlin Hanson from Sherwood. Representative Hanson?

REPRESENTATIVE ORLIN HANSON: Thank you, Mr. Moderator. Mr. Chairman, my name is Orlin Hanson, a rancher from Sherwood, North Dakota. I am also a part-time state legislator and an international consultant.

Representative Orlin Hanson
Minot, North Dakota
Tuesday, June 27th, 1989

I think I can probably say, without reservation, that I have probably attended more meetings in both countries on this subject than anyone else in the basin. I was born and raised on the home ranch and still live there. This ranch straddles the Canadian border unofficially. I have lived with the Canadians as my neighbours and my friends all my life. I have spent many hours of my time trying to make things easier for those who needed to verse this border.

The Deputy Premier of Saskatchewan, Eric Berntson, and myself were principally responsible for the formation of the North Dakota-Saskatchewan Boundary Advisory Committee, which has played a major role in bringing our two countries together on this project.

I first became involved in this project in 1955 when I went to a meeting in Mohall concerning the Souris River. Of course, at the time, there was no involvement by the Canadians and absolutely no communications between our two countries on this subject. If you would allow me to digress back in history just a little ways, I will attempt to bring you and your committee up to date on what has taken place from a layman's point of view.

During the late '40's and early '50's a series of small floods occurred in the Souris Basin, causing concern in Minot and surrounding areas. Damage was not that extensive, but recalling an earlier flood of 1904 with major catastrophic results in the valley, Minot requested help from our Congressional Delegation. Through action by them, a request was made of the Corps of Engineers to develop a flood plan for the Souris basin. This had to be limited to the portion of the basin south of the international boundary, so it was a very limited study. The plan, as developed by them, was the infamous Burlington dam and related works, such as the Des Lacs diversion tunnel.

This basically was a plan that would benefit the Minot area to the detriment of upstream and downstream interests. Even though this was the only practical plan the Corps could present, because of their limitations to the study this side of the border, it was violently opposed by those who lived in rural areas because it would, in essence, destroy the major portion of the valley to save Minot from flooding.

I attended my first ban the Burlington dam meeting in the fall of '55 and then became actively involved in the early '70's. The plan, as proposed by the Corps, was put on the back burner until 1969 when the first major flood of catastrophic proportions inundated the Souris basin since 1904. This was the famous flood that covered the entire Souris and Des Lacs valley for up to six weeks, as it entered the U.S. portion of the basin at Sherwood on April 12th and did not recede until early June at the Westhope station on the Manitoba border. Minot received most of the attention during that time period, and rightly so. This is where the greatest part of the population live and where most of the damage occurred.

I can remember very vividly Senator Burdick and the late Senator Young standing on the levees at Minot in the rain promising the people the Burlington dam. They both were sincere in their efforts to help relieve the suffering that was taking place at that time in Minot. There was one element that didn't get much fanfare, though, and that was the fact that the flood hit the upper portion of the basin in Saskatchewan and northern North Dakota long before it hit Minot, causing severe damage and hardships in the rural areas. The downstream interests were not taken into consideration as much as they should have been either. These two facts together brought the organization known as Citizens United to Save the Valleys into a cohesive group, and over the years it has effectively worked to bring about a solution to the water problems in the entire basin in Canada and the United States.

You see, Mr. Chairman, as early as 1932 a far-sighted group held a meeting in Estevan, Saskatchewan to discuss the water problems in the Souris basin. Participants in this Saskatchewan representatives was the Governor of North Dakota, the City of Minot, local legislators, and a like group from Canada. They all agreed the only practical solution to these water problems was a dam on the

Representative Orlin Hanson
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upper reaches of the Souris River in Saskatchewan above Estevan known as the Rafferty dam, and I just happen to have a copy of the Minot Daily News February 20, 1932: "Estevan Dam Would Assure Steady Flow of the Mouse in Minot". It's travelled a lot of miles.

A series of meetings were held in Minot and surrounding areas. Then the drought and depression of the '30's hit and you all know what happened. It was completely forgotten about until 1978, through a study known in Canada as the Souris Basin Study, it came to light again. It gave credibility to the fight Citizens United to Save the Valleys was waging to save their homelands from destruction by a man-made force greater than a mere flood. Through a series of events taking place over the next three years the picture started to change, the first of which was offering for sale the yards in the park as a way to raise money to carry on the battle to save our lands. This little scheme publicized our plight all over the country, and even internationally, as portions of the valley were sold into the 38 states, six Canadian provinces, and eight foreign countries.

In 1981 a new Governor took office, Allen I. Olson. He was able to look at it from a more objective standpoint.

Then in 1981, also, two brothers, Richard and Orlin Backis, who had helped lead the fight from opposite sides of the issue, were able to bring the city and rural factions together to bring about a truce so that all efforts could be aimed at the same direction.

In April of '82 the final part of the puzzle was put in place with the election of the Honourable Grant Devine as Premier of Saskatchewan. His government would lead the fight for co-operation with Governor Olson and our Congressional Delegation, namely Senator Quentin Burdick, to bring about a solution to the water problems.

After another series of meetings at the North Dakota-Saskatchewan Boundary in 1983 and '84, Senator Burdick called us to Washington. Governor George Sinner, Premium Devine, representatives of the Corps, both the district regional and national Fish and Wildlife and others, including Senator Burdick Senator Andrews, Congressman Dorgen (ph), Richard Backis and myself. After much discussion concerning this series of dams in the Saskatchewan portion of the basin Senator Burdick asked all those concerned to go home and assess the benefits that could be had by working toward this solution.

Then, in October of '85, we all assembled again in Senator Burdick's offices, at which time an agreement was reached as to the viability of this project. The Corps had stated they felt we could attain benefits of approximately $41 million in the North Dakota portion. That was U.S. funds. Senator Burdick asked Premier Devine if we had a deal, and after consultation with his staff the Premier said we did. A gentlemen's agreement was struck and reached.

Since that time meetings have taken place, both separately on each side of the border or jointly, to work out a workable operating plan for the future. This took some time, as a very sticky problem surfaced during discussions, what to do about the loss of water through evaporation as we store it to effectively manage it in the entire basin. This caused much concern, but has been resolved by some tough bargaining and negotiations on both sides. The international boundary had to be lifted from all discussions as much as possible in order to properly assess the situation as resolved.

As you see, Mr. Chairman and Members of the Board, we have travelled a long and sometime troublesome road in order to try to solve the water problems in this basin. If we could be left to ourselves it could be done, as I have worked all my life with my neighbours to the north and have found nothing that couldn't be solved if we tried.

The environmentalists and wildlife people are worried because there will be a change in the way things are. There has to be change in this world from time to time or there will never be any progress. They have to remember that the alternative to these dams is either the Burlington dam or do nothing, and I don't think we want either of them. Winston Churchill once said:

> "The world suffers mightily from those who don't know what took place beforehand and don't bother to find out or don't give a damn."

The Burlington dam would have put 20 feet of water over Lake Darling in a flood year like 1976, and many years like that would completely ruin it.

To do nothing could cause more loss of life, as it already has, and much property damage. I know of a gentleman that had to go tell his hired man's wife that she didn't have a husband any more and he didn't have a hired man. He had slipped into the murky waters of the Souris when his horse went under trying to help a neighbour. You see why something has to be done in this basin, and the only way to properly do it is to start at the headwaters and work on a basin-wide water management program.

We have fashioned a program of water management for the entire Souris basin, something that a lot of people thought to be impossible. We traversed an international boundary and put together an historical document with our Canadian neighbours that we can be justly proud of. It is one that will serve the needs of this basin for many years to come.

We have not forgotten about the ducks and the wildlife, nor the fisheries, we are just trying to make it compatible with the needs of mankind as God intended us to do. We have started it, so let's get on with the work. Thank you, Mr. Chairman.

MR. WRIGHT: Thank you. Next we have the fine gentleman, Vern Fahy, good to see you Vern, representing North Dakota State Water Commission.

VERN FAHY: Mr. Moderator, Mr. Chairman, Senator Burdick, Governor Omdahl, ladies and gentlemen; my name is Vern Fahy.

I have recently retired from the position of state engineer for this state after serving 16 years in that capacity. As state engineer, I co-ordinated the state's efforts leading to the joint agreement for the construction and operation of the Rafferty-Alameda flood control projects. I also served as the U.S. Co-chairman of the Souris River International Board of Control. Prior to becoming state engineer in 1973 I was an employee of the City of Minot for 24 years in several engineering and administrative positions, including that of city manager for seven years, the position I left to become state engineer.

We lost the flood fight of 1969 because we were unprepared for such an event. We did, however, evacuate 12,000 people, their household furniture and personal belongings. Although subsequent floods brought the city to the brink of disaster on several occasions, it has avoided another floodplain surrender such as that experienced in 1969.

Our limited successes in fighting the floods that followed the 1969 disaster can be attributed in large part to improvement in our knowledge of the river hydrology, improved flood forecasting techniques, and importantly, great improvement in communications with Saskatchewan water resource technicians. We also benefitted greatly from the expertise furnished by the U.S. Army Corps of Engineers in co-ordinating the flood-fighting efforts of federal, state, and local entities. Our flood control efforts have also been improved considerably with the completion of the first phase of an overall project which increased the channel capacities through the city to 5,000 cubic feet per second.

Vern Fahy
Minot, North Dakota
Tuesday, June 27th, 1989

In spite of these improvements, Minot and the Mouse River valley are still at great risk. The valley has not, since 1904, experienced, nor could it handle, a flood approaching that of a 100-year frequency. Of the several flood control alternatives studied to protect this area, the Rafferty-Alameda project offers the most attractive solution because it satisfies critical needs on both sides of the international border.

When completed, this project will allow the Province of Saskatchewan to retain its full share of the water, to which it is legally entitled but has not been able to retain due to lack of storage facilities. In addition, the province will be able to increase its power generation capacity, expand its economic and recreational development capabilities, and provide flood control benefits to downstream communities. The joint project will provide the Mouse River valley with 100-year flood protection and improved river flow management. In other words, the citizens of this area will be able to live without the threat of frequently-occurring devastating floods, and with the knowledge that the stored waters will be released so as to maximize benefits for all users.

On page 22 of the draft summary, statements are made concerning the adverse impacts of the project upon the fishery at Lake Darling. It should be noted that the Lake Darling project was constructed as a waterfowl enhancement facility, and did not include any provisions for a fishery. The fishery came about as a result of actions of the State Game and Fish Department. The lake has been a good fishery in most years, however there have also been poor years due to low water and winter kills.

The environmental impacts of the project on this state, as outlined in the draft report, are all related to reduced flow condition. Had Saskatchewan constructed storage facilities at any time during the last 30 years, the conditions described in the report would presently exist. There seems to have been little consideration of this fact, the legal right of Saskatchewan to use its entitlement to the waters of the Souris River.

On page 25, and in other places, mention is made of the impacts of reduced flow on the use of refuges by waterfowl. Since Lake Darling is the storage facility for the refuges on the river, losses seem to be attributed to the loss of storage capacity in Darling necessary to maintain downstream marshes. In this connection, there is a proposal that acre-for-acre mitigation should be considered to compensate for waterfowl losses. No mention is made of the fact that if Lake Darling is adversely affected, as described in the draft report, it, Lake Darling, would tend to become a marsh and would, in itself, become a productive waterfowl area, offsetting in large part the decrease in production from the other refuges.

The acre-for-acre mitigation idea needs to be studied in terms of ducks produced per acre to offset losses, rather than considering land purchase only. Production certainly cannot be uniform on all types of land under all forms of management. The U.S. Fish and Wildlife Service compatibility and mitigation process have been followed by U.S. agencies participating in this project. These are intended to ensure that the flood control features do not unduly interfere with the waterfowl production objectives of the Mouse River refuges. The necessary mitigation enhancement measures were identified and reported in the U.S. Army Corps of Engineers Environmental Impact Statement.

Impacts related to the diminished water supply in the system are really the result of the province exercising its right to retain 50 percent of the natural flow of the river at Sherwood crossing, and all the water at that point originates in Saskatchewan.

The North Dakota Constitution provides that all flowing streams and natural watercourses in the state are the property of the state. Although permission to use the water can be given, ownership remains with the state. After the water crosses the international boundary it becomes the property of the state, and is regulated by the state engineer. The State of North Dakota recognizes and respects

Saskatchewan's right to use, divert, and store the amount of water permitted by the 1959 apportionment measures. If, at some time and for some reason, Saskatchewan relinquished its claims to some of the water to which it is entitled, it is incorrect to assume that the additional water accruing to North Dakota would be used for waterfowl propagation. There may be higher priorities for that use at the time of occurrence.

North Dakota has repeatedly assured the Province of Manitoba that it would honour its commitments under the apportionment measures and the Boundary Waters Treaty. The construction of the Rafferty-Alameda project, when completed, will provide flexibility in managing river flows for the benefit of North Dakota and Manitoba. The other project alternative which has been studied in depth, the four-foot rise of Lake Darling, would provide greatly reduced storage capacities, only 25-year flood protection, and reduced water management capabilities.

It should be emphasized, in closing, that the U.S. Fish and Wildlife service was a party to and concurred in the agreement for the project development, and was well aware of all of the ramifications of the project as discussed by the agencies leading up to that final document. The Service will also be a participant in the multi-jurisdictional water plan mentioned on page 23 of the report. This plan is being proposed as a means of securing sustainable water use in the basin, and should compliment agreements on water quality objectives in the basin.

Co-operative development of the project with Saskatchewan offers an opportunity for co-ordinated management of the river system. The State Water Commission is a strong supporter of this joint effort, and believes that it is a unique opportunity to improve the quality of life on both sides of the international boundary. At its May 1989 meeting the State Water Commission passed a resolution renewing its commitment to support of this project, and assuring that it will continue to devote effort to the eventual construction of the Rafferty-Alameda project. Thank you, sir.

MR. WRIGHT: Thank you. Thank you, Senator Burdick, for coming out. I understand he has to go right back now. Thank you, sir.

Next we have Gene Christianson representing North Dakota State Health Department.

GENE CHRISTIANSON: I am Chief of the Environmental Health Protection with the North Dakota State Department of Health. With me tonight is Mr. Francis Schwindt, he's Director of our Division of Water Supply and Pollution Control. Our statement tonight will be a rather brief statement. We will be submitting some detailed comments later to Environment Canada.

We appreciate the opportunity to provide comments on the draft Initial Environmental Evaluation of the Rafferty-Alameda project. As the North Dakota State Department of Health and Consolidated Laboratories has regulatory responsibility for water quality in the State of North Dakota, our comments will focus primarily on water quality issues associated with these projects.

From the outset of our involvement with the review of this project, we recognize the enormous complexities associated with the construction of two dams, river channelization, irrigation, and industrial development in the Souris River basin. Any projects of this magnitude can have profound impacts on downstream water quality if comprehensive planning and subsequent implementation of mitigative measures are not taken. Significant progress has been made in elucidating these impacts. We wish to thank Environment Canada, the U.S. Environmental Protection Agency, the Souris Basin Development Authority, and the U.S. Army Corps of Engineers for their considerable contributions to this effort.

Impacts from the project include increases in ammonia and total dissolved solids levels in North Dakota, decreases in total dissolved oxygen, and increases in total dissolved solids in North Dakota. There is also potential biomagnification of mercury possible. Furthermore, there is a probable elimination of the fishery within and below Lake Darling, as well as substantially-reduced assimilative capacity for Minot and other point source discharges in the Souris, primarily as a result of reduced flows.

As I mentioned earlier, we will be submitting detailed comments to Environment Canada, but I felt it appropriate that we call the attention to an Environment Canada statement made on page 15 which relates to water rights of the City of Minot and the uses of its allotment.

The statement was made that the City of Minot uses its allotment for sewage dilution in conjunction with releases from Lake Darling. Actually, I believe the allotment for the City of Minot is for drinking water purposes, that's one point. The other point I would like to make is that we do not, in North Dakota, have sewage discharges as such, and I think that point should be made. The proper term would be treated municipal waste water effluent.

Attempts have been made to quantify some of these impacts through modeling efforts of the Souris Basin Development Authority and the U.S. Environmental Protection Agency. The results of modeling are inconsistent, with neither of them subjected to calibration and verification protocol primarily due to a lack of sufficient data. This lack of calibration and verification has been an obstacle to evaluating specific water quality impacts, but it does not appear probable, with the myriad of variables and uncertainties associated with this modeling, that calibration and verification will be forthcoming in the decision-making time frames.

Some progress has been made in establishing an International Water Quality Monitoring Committee. We think this is an excellent idea. We recommend expediting this process to ensure timely empirical data is available to determine if compliance with North Dakota State water quality standards is achieved.

The incorporation of selective withdrawal capacity in the Alameda reservoir is a positive step forward to improved water quality. However, any releases from the dams must be complimented by an operational plan which is sensitive to mitigating downstream impacts from the standpoint of methods and timeliness. We would also encourage the Souris Basin Development Authority to incorporate similar design features in the Rafferty dam, which would provide added flexibility for water quality management.

In conclusion, we would like to say that the co-operation of the Provinces of Saskatchewan and Manitoba on water quality issues has been very good. We are looking forward to continuing work with them and Environment Canada on a Water Quality Surveillance Program and in the development of an operational plan which is in compliance with Article IV of the Boundary Waters Treaty. Thank you.

MR. WRIGHT: Thank you. Thank you, Mr. Christianson. Next on the agenda is David Haumersen, Deputy District Engineer for Project Management, St. Paul District, United States Army Corps of Engineers. Mr. Haumersen?

DAVID HAUMERSEN: Thank you Mr. Wright, Mr. Burns, Mayor Christensen. It's good to be here tonight. Before I get started I would like to introduce the new Corps' of Engineer project manager on the Corps project in the States, John Baylen (ph), and John, if you would stand?

I appreciate being on the agenda tonight to provide you with the status of the Corps' Souris River Basin Flood Control Project. The purpose of the project is to provide 100-year flood protection at Minot. The features of the project necessary to accomplish this include purchase of flood storage in Rafferty and Alameda reservoirs in Saskatchewan, levy modifications at Sawyer and several subdivisions between Burlington and Minot and at Renville County Park, floodproofing of about 90 rural homes, and the purchase of flowage easements, mitigation of impacts to fish and wildlife resources in the Upper Souris, in J. Clark Salyer Natural Wildlife Refuges, and development of a basin flood warning system.

The project feature at Velva was economically justified on its own, and was constructed in 1988 to provide 100-year flood protection there. That feature included upgrading in existing temporary levees, a cutoff channel, interior drainage, and modifications to the sewer system.

In view of the delay in Canada, we decide to complete the design of plans and specifications currently under way. No new items will be started until the Canadian licence to construct are restored. Plans and specifications currently under way, and scheduled for completion by October, include the following: protection of eight communities from Burlington to Minot; the Sawyer levee modification and cutoff channel; part of the work in the refuges; and part of the rural improvements designs.

Assuming the issuance of the licence to construct is granted by the Minister of the Environment by October we anticipate the Corps to proceed as follows: design schedules for 1990 include Renville County Park improvements and the remainder of the rural improvements, then construction is scheduled as follows; Burlington to Minot 1990 and 1991; Sawyer 1990; rural improvements 1990 and 1991; refuge structures 1990 and 1991; and Renville County Park in 1991.

For the Lake Darling dam modifications, we have completed an alternative spillway analysis and expect to complete our designs in April, 1991 with the construction start in September, 1993.

In conjunction with this project there is lots of documents, and you have heard reference to a few of them tonight. I would just like to run over the ones that need to be completed. Well, I'll run over all the documents just briefly to give you the status of those.

The memorandum of understanding between the Department of Army and Department of Interior was signed on June 2nd. This agreement addresses how the refuge structures will be modified and the cost sharing arrangements.

The final EIS for the Souris River project was prepared by the Corps and the Fish and Wildlife Service as a co-operating agency. This document addresses the impacts in the U.S. and Manitoba resulting from the operation of the Souris River project for flood control. In addition, the EIS describes mitigation measures that will be accomplished to compensate for project impacts. The Corps is now preparing responses to comments we received on this final EIS. The record of decision will be signed at the conclusion of the EIS process.

The local cost-sharing agreement has been approved by the Assistant Secretary of the Army and has been provided to the Souris River Joint Water Resources Board for review. Revisions to the draft document that were recommended by various interests have been essentially incorporated. The Joint Board can sign the agreement after the international agreement for the entire Souris River project is approved and signed.

A draft version of the international agreement has been agreed to by the negotiating team and recommended to the respective governments for signature. The compatibility statement for national wildlife refuges is currently being prepared by the Fish and Wildlife Service. We understand it is scheduled for completion in August.

We have come a long way on this project, and we look forward to completing it. We look forward to an early restoration of the Canadian licence to construct so we can complete the total construction of the project. Thank you.

MR. WRIGHT: We are running just a few minutes ahead of schedule, but we will be very prompt, be right back on the agenda at 8:40, so there is coffee being served in the back of the room. Thank you right now, and ladies and gentlemen, we will be right on schedule at 8:40 for the short remarks from the individuals.

(Meeting adjourned at 8:17 p.m.)

(Meeting reconvened at 8:40 p.m.)

MR. WRIGHT: Let's get rolling. We have a few signed-up people to make a few short remarks, so please come into your chairs and we will move this right along. We are a couple minutes ahead of what the schedule says, but I think we are going to have to start right away because of the amount of people that want to make a few short remarks.

We are going to try to hold it very strictly to a three-minute or less comment, but I am not going to run anybody out if they run a second or two over. It would be nice,if you do have written statements, if you could leave them at the desk. After you make your comments, if you do have it in writing, could you please leave them here for the record.

Is Mr. Cunningham close to the area where we can ask him to be first? All right, Mr. Cunningham? Now can we have your attention people, and I am going to allow this gentleman a few extra minutes, because he may be the only gentleman that will be speaking on this at this level, so we would appreciate your forwardness. Yes?

RICHARD CUNNINGHAM: Thank you very much. I am Richard Cunningham, President of the North Dakota Wildlife Federation, and we appreciate the opportunity to present our comments for your consideration of your Initial Environmental Evaluation of the Rafferty-Alameda project.

First of all, I want to emphasize that the North Dakota Wildlife Federation is not opposed to flood protection for Minot. We remember the devastating floods they have suffered in the past. We understand the great need for reducing the losses caused by flooding of the Souris River.

We are opposed to the Souris River basin project as it is now planned. At our annual convention in Fargo in January of 1988, our delegates passed a resolution that had been sponsored by the Bottineau Wildlife Club, Bottineau, North Dakota.

That resolution called for a moratorium on further approval of the project until a basin-wide environmental impact assessment is completed by an unbiased international committee and that such an assessment should address all of the impacts that would result from the project throughout the Souris River basin in North Dakota, Manitoba, and Saskatchewan. It should also propose adequate mitigation for the impacts.

Undesirable impacts identified by Ducks Unlimited, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency include:

- frequent water shortages in North Dakota and Manitoba;
- declines in water quality, particularly un-ionized ammonia;
- changes in the water flows in the Souris River;
- potential for loss of the $4 million Lake Darling fishery in seven out of ten years;
- the potential for mercury contamination of fish in the reservoirs and Souris River;
- reduced numbers of waterfowl stopping at both U.S. refuges;
- loss of up to 40,000 acres of wetlands to drainage in Saskatchewan;
- failure of the Souris River to recharge the Sundre aquifer; and
- adverse effects on rare and endangered plants and animals.

We are very concerned that the Environmental Impact Statement prepared by the Souris Basin Development Authority, the SBDA, only considered one alternative. Alternative plans that could have achieved the same 100-year flood protection were not evaluated. Alternative plans might result in fewer and less-damaging effects to the Souris River Basin, the fishery at Lake Darling, the two wildlife refuges, and to the water supply for the City of Minot.

Because of these concerns, the North Dakota Wildlife Federation urges the Federal Minister of the Environment to find that the environmental effects of the Rafferty-Alameda project are significant and unacceptable, and rule that the proposal must be either modified and rescreened or be abandoned.

We are pleased that Environment Canada is taking a second look at the Rafferty-Alameda project. We encourage you to consider the preparation of a basin-wide Environmental Impact Statement in co-operation with the SBDA, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, the North Dakota Game and Fish Department, the North Dakota Water Commission, the North Dakota State Health Department, and the Manitoba Government. Thank you.

MR. WRIGHT: Thank you, Mr. Cunningham, for your short remarks. We have these cards that the people have signed up. Right now we have Representative Aas to follow. Representative Aas, if you are ready to take the podium. We have Representative Ben Tollefson to follow, and then Ed Bickler, if you would be ready, you gentlemen, as we are moving along. I'll just announce ahead just a little bit just like that, so that you know.

LYNN AAS: Thank you Mr. Chairman, and ladies and gentlemen; My name is Lynn Aas, and I am here in support of the Rafferty-Alameda dam projects. I am a State Representative from the 5th District in Minot, and about one-third of my district was severely flooded in 1969, and threatened again with inundation in 1975 and 1976. Many of the residents of my district are senior citizens living near or below the poverty level. They cannot financially, physically, or emotionally endure another tragic uprooting of their homes by floodwaters.

When you consider environmental quality and environmental impact, you should not place all of your emphasis on ducks and exclude the human environmental needs and an adverse ruling to construction of the dam would take away an opportunity to improve the quality of life of residents of the Souris valley at the expense of ducks.

Most, if not all, of the opposition to construction of the dam is put forth by wildlife and conservation groups that seem to make a habit of being obstructionists, offering no real improvement or suggestions of value of their own. They seem obsessed with making their case by lobbying and political action rather than spending their time and effort in improving habitat and environment. I have personally been a member and sponsor of another organization, Ducks Unlimited, that does not seem to involve itself in the lobbying, but rather goes about its business of creating and improving thousands of acres of wetland every year in both Canada and the United States. Ducks Unlimited is an example of an organization that is doing something to promote an ecosystem in which waterfowl, wildlife, and humanity can live in harmony.

I grew up on a farm about 45 miles southeast of Minot during the 1920's and 1930's. During my youth I scoured that country by foot and horseback and never once saw a deer, an antelope, a fox, or a raccoon. I saw only a few geese, a few cranes and pelicans, no shore birds, virtually, and then only those in overflights.

Today, since the construction of the Garrison and Snake Creek dams, we have the benefit of water in Lake Audubon, and that same area has all of those categories of wildlife. Lake Audubon has demonstrated that the creation of the two bodies of water in Canada will do just as much, and probably more, and they will add additional wildlife as well.

I urge you, in the interests of our human beings living in the Souris valley, as well as for all environmental improvement, to give favourable consideration to building the Rafferty and Alameda dams, and to offer the Souris valley reliable flood control. Thank you.

MR. WRIGHT: Thank you. Mr. Tollefson?

BEN TOLLEFSON: Mr. Chairman, my name, for the record, is Ben Tollefson, I am an elected representative of the 40th and 50th Districts of Minot to the State Legislature of North Dakota.

I am also a native of Minot, I was born and raised here, and for many years I, too, have lived beside the water, beside the Souris. I can recall many times when certain situations would exist that could jeopardize everyone's concern for water, either with or without it. However, in 1969 I had a particular experience that I thought was really worth relating to you.

In 1969 I served the Ward County Red Cross as disaster chairman for this district. It was an opportunity that I didn't realize would exist until it actually happened. In 1969, needless to say, we had the entrance of one of the largest floods in history in the Souris valley. Again, to repeat what has been said before, there were some 12,000 residences taken, evacuated from the floodplain of the City of Minot, brought to the high lands, and they had to leave their homes for the devastation and the water that would sit there for 40 days, 40 nights. The grief, the despair, the concern, the hopelessness of that situation, I wish I could paint a word picture for you to describe it.

I was personally involved with many of these people. I saw what happened. They went back 40 days after the floodwaters had dropped, had receded, to practically nothing in many cases. Only through the help of some government agencies and others, such as the Red Cross, were they able to pull themselves back up by the boot straps. Businesses that were inundated were left, in some cases, left wanting. They were not re-opened. The economy of the City of Minot today is still affected by those floods from '69 and the early part of the '70's, a very hopeless feeling, and truly a feeling of the human and personal part of that type of desperation.

The Rafferty-Alameda opportunity, and I would like to use those words because they are so important, the opportunity exists here today for the Souris valley, not only Minot, and Canada, and North Dakota, the people living in the valley, to have that 100-year flood protection that's so important. I think we have got to recognize the fact that we truly should be people-orientated. It's been said over and over again that sometimes we give too much attention to the ducks and not enough to those people, the people environment that we are all concerned with.

I would like to have Canada, certainly, and the United States, and all of us together, come up with the solution, the solution that is at hand, for that 100-year protection that is so important.

I thank you, Mr. Chairman, for the opportunity to say a few words here, but I certainly hope and pray that that protection is available to us in the very short future.

MR. WRIGHT: Thank you. Ed Bickler? Next will be Dalton Deardurff and Ed Kuhn.

ED BICKLER: I am Mayor Ed Bickler from Velva, North Dakota. I am here in favour of the Rafferty and Alameda dams.

We are situated, 1,200 people, on the furthest tip south of the Souris River where the water turns and goes back north into Canada. The Corps of Engineers, just last fall, completed our channelization. We now have 80 years of flood protection, not 100 like the Corps of Engineers stated earlier. Without the Alameda and the Rafferty dam, we do not have 100 years. We will not get 100 years until those are built, or the raising of Lake Darling three feet.

We are under dictatorship, let's say. We recently had to pass ordinance, we had our second meeting last a week ago Monday, where no construction whatsoever in our city, while we haven't had any for 14 years due to regulations -- I'll take that back, we had three housing developments, apartment buildings built at an elevation of five feet, and then they have had to build on top of that. Well they have only allowed us so many mounds because it displaces water and raises the elevation of the flood, so they cut that off. Now, with this new ordinance, a trailer house moving into Velva has to sit on six-foot stilts. If we didn't sign this ordinance, they would cut out our help from the Corps of Engineers at a time of flooding, they would cut off our subsidized flood insurance, which was 29 cents on $1,000 when we first took it out 14 years ago, now it's $4.59 per thousand, they would cut that out. We cannot get subsidized or federally-guaranteed loans through Farmers Loan Administration (ph), who is our prime lender. We are stymied. Without these dams, gentlemen, we just cannot build.

I would like also to state that I am probably the most avid fisherman in the room, and I will be doggoned if I could put fish ahead of human life and savings of people who have built all their lives to acquire a business or a home and lose them in a matter of hours. So I thank you.

MR. WRIGHT: Thank you. Mr. Deardurff? Next we have Ed Kuhn coming.

DALTON DEARDURFF: Thank you, Mr. Moderator. My name is Dalton Deardurff and I reside at 716 Forest Grove in Minot. I am here as a representative and Alderman of the 4th Ward of the City of Minot.

The Ward I represent consists of single-family residential homes multi-family residential homes, and commercial properties. We have each of these types of homes located in the floodplain and outside of the floodplain. I have been presently involved in flooding in Minot ever since the beginning of it as we know it today, as it started in 1969, and a vast majority of the people I represent have also been involved with it.

Since assuming my position as 4th Ward Alderman in 1986, I have not received one single phone call, one letter, or contact of any type from any of my constituents in the 4th Ward that have been opposed to flood control, and in particular the Rafferty-Alameda project. In my travelling throughout the north central portion of the state along the Souris valley, I have had an opportunity to visit with many homeowners and property owners in other communities located along the river basin. Again, I have never received a single individual that has expressed any opposition to the Rafferty-Alameda project.

The conversations I have had range from young couples just starting their families to elderly senior citizens, business owners, corporate executives, housewives, working mothers, labourers, professional people, unemployed, as well as college students. This provides a very wide cross-section of views, ideas, and opinions. Again, the vast majority, almost exclusive majority, have expressed no opposition to this project and have given their support to it.

Support is so strong that I have received very solid support from the sales tax, when it is implemented, to cover their fair share of the costs involved. Everyone I represent, whether living and/or working in Minot, regardless of where they live or work, in or out of the floodplain, knows the disastrous consequences to everyone within the community as well as everyone along the river valley when that mighty Mouse does roar. This is not a project which is receiving support from any special interest group. It is undoubtedly the most widely and solidly-supported project this state has ever seen.

I thank you for your time and consideration in this matter.

Ed Kuhn
Minot, North Dakota
Tuesday, June 27th, 1989

MR. WRIGHT: Thank you. Ed Kuhn?

ED KUHN: Thank you, Mr. Chairman. My name is Ed Kuhn, I have been an Alderman for the past 15 years, and I am supporting building of the Rafferty and Alameda dams, not only because I live in the flood area, but mostly because a large majority of my constituents live in the floodplain.

When you consider that a flood such as we experienced in 1969 affected the lives of over one-third of our population, roughly 13,000 people, you begin to realize the material devastation, the financial loss, as well as the emotional upheaval these floods and near-floods have caused our entire city. The flooding remains my number one concern, and must be resolved for the well-being, safety, emotional stability, as well as future economic growth of our community, especially for all of us who reside in the valley.

I sincerely hope you will weigh these compelling human concerns against the environmental concerns. Thank you, Mr. Chairman.

MR. WRIGHT: Thank you. We will have Vida Gordon. Can you reach that?

VIDA GORDON: Mr. Chairman, you will be surprised what I can do in three minutes.

MR. WRIGHT: That's fine.

VIDA GORDON: First of all, I would like to acknowledge the unique friendship that we have with our Canadian neighbours, where we can have thousands of miles of border between us that is not patrolled with guns, and when we go over there to buy brown betty teapots, the customs man just waves us through. I think it's wonderful.

Now I am speaking -- oh, I have to acknowledge all these gentlemen here.

MR. WRIGHT: You are in order.

VIDA GORDON: Okay. Thank you for the opportunity. I haven't a captive audience like this very often.

Now I want to tell you this. I lived at Outlook, Montana and we exchanged ball games with Carnduff, Saskatchewan, and there was never any question, we played on Sunday and the customs men just nodded and waved us through and wished that the Canadians would win, and the United States customs wished that we would win, and we enjoyed it for many, many years.

Now I have a solution to this problem, and it's quite simple. I don't know why the bright Canadians haven't thought of it long ago. You have, in your heritage, some iron women. You have the Queen, you have the Queen Mother, you have the Prime Minister, and that sets you a beautiful example. Now why don't you send us some of your strong women? This is my 20th anniversary. We sing the Star Spangled Banner and we sing God Save the Queen. My song is River Stay Away From My Door. For 20 years I have come up here and talked with you, and you have cut me from five minutes to three. Well, there must be a reason.

Now my suggestion is this; will you choose a bevy of your strong women, they don't need to be iron, they can be stainless steel, and send them down here, and we have some strong women. We have, in our State Legislature, three very, very good representatives, and I want to tell you about the one who has represented us for 50 years. You know her as a powerful person. She is not made of iron, she is flexible. And we also have, in Minot, some strong women. So if you will send us your good, strong women, I will promise you that I won't be here year after year for the next 20 years, we will get the job done.

I want to leave you with Brinalt Hoglund's (ph) statement, and that is the way I feel about it. This is what she said:

"It does not matter who gets the credit, just so the job gets done."

And let's share that muddy water. As I looked at it today I said "ugh, we drink that darn stuff", so let's get on with it, and if you fellows think it's going to take us 20 years, it's not going to do it. Thank you.

MR. WRIGHT: Thank you. You could use that podium if you care to.

LINDA HOWARD: Thank you, Mr. Chairman. My name is Linda Howard, I am the Executive Assistant of the Minot Commission on the Aging where I have worked for the past 13 years. I am here to express concern for the elderly when they are faced with a flood or with a flood threat.

In 1976 our agency saw, firsthand, the types of problems that the elderly face, because we went door to door late at night knocking on doors when mandatory evacuation became necessary. I remember the experience well, because we found some very frail senior citizens who needed assistance with the entire relocation process.

Some of these people were alone and did not know that evacuation was necessary, so you can understand that they were confused and frightened when they were told that they would have to leave their homes. Some were disabled and we were dealing with wheelchairs, walkers, oxygen tanks, special diets, and so on. It wasn't just a matter of finding a place for them to stay, it was a matter of finding a suitable place where their medical needs could be met. Some of these people were forced into nursing homes. Even after the seniors were relocated into suitable living quarters, they continued to need assistance throughout the entire evacuation period, help in getting groceries, medications, and other personal items, and then when the flood threat was over there was the whole process of getting everyone back in their own homes again.

These people certainly have not since forgotten such a traumatic experience. Ask any one of them, and they can tell you how a flood threat touches all aspects of their lives. Their sense of security, their physical and emotional health, their financial status. A flood threat is traumatic for the entire community, but I believe it is especially traumatic for the elderly. We need to take steps today which will protect them from another threat.

CHAIRMAN: We have a lady, Ruby Crites, to follow, and then Orlin Backis.

RUBY CRITES: Mr. Chairman, dignitaries ladies and gentlemen; My name is Ruby Crites, I am President of the Minot Public School District. The Minot Public School District recognizes the need for flood control based on a disruption to education during the flood of 1969 and the floods during the 1970's. Each of these floods were also a cost to the taxpayers of the school district. Some costs cannot be adequately measured.

The disrupted education of our youth, whether by movement to another location or by days lost when school was not in session, are a concern to the school district. Our children are entitled to a full opportunity for an education. Past floods have made it necessary to dike schools in the floodplain and to schedule students into schools in another part of the district. The junior high school students have needed to share a school building by having a morning session for one school, and an afternoon session for the other set of students. This is not a satisfactory educational setting for the students. It is an unmeasured cost. Education for our youth is very important to this community.

A recent check to determine the rate for flood insurance found that insurance for four flood-claimed schools, Perkit, (ph) Eric Ramstead, (ph) Lincoln, (ph) and McKinley (ph) would be approximately $4,000. That amount can be better used for instructional materials, equipment, or in other ways used to support the education of the students.

Disruptions to students is a major concern, but also present is the expense realized when support staff is needed to make flood preparations, and later to do the cleanup activities. The school buildings suffered major damage and much repair was needed in the 1969 flood. The more recent floods have not caused the same damage, but the expense incurred diverted dollars from education. The School Board of the Minot School District has, on several occasions, adopted resolutions of support for flood protection.

I speak for the School Board and the school district taxpayers as I request that the flood control project continue, and that protection be provided the citizens of this community, and that future disruptions of education be averted. Thank you.

MR. WRIGHT: Thank you Ruby. Leon Levesque?

LEON LEVESQUE: Thank you, Mr. Chairman, I am Leon Levesque, a citizen of Minot and a resident of the Souris River floodplain.

On behalf of the Town and Country Sportsmans Club of Minot, I congratulate Environment Canada for their comprehensive, unbiased, factual, and environmentally sympathetic Initial Environmental Evaluation. We concur with your conclusions and concerns and pledge you our unqualified support in those regards.

Although we are as anxious as any to bring 100-year flood protection from Minot into contemporary reality we have not, and could never, concur with proposals or actions that would reach the above objectives to the unwarranted expense, degradation, and decimation of our national and international natural resources and environments.

Further, we would hope that the final draft of the IEE would direct future policy and action by both the U.S. and Canada to be more thoroughlyly studied, adequately cautious, and environmentally compatible, and that this report would compare possible alternatives that also could affect rightful water entitlement by Saskatchewan, and 100-year flood protection for the Souris River basin. Thank you.

MR. WRIGHT: Thank you, Mr. Levesque. Mr. Backis?

ORLIN BACKIS: Mr. Chairman, I am Orlin Backis. I have practiced law in the City of Minot for 25 years.

I have been very familiar with the Souris River valley all of my life, having been raised in Renville County. My grandfather's farm, the Keller farm, was taken in the late 1930's for Lake Darling reservoir. Grandfather Keller's homestead was located one mile north of Lake Darling, right in the center of what is, today, this Lake Darling reservoir. My grandfather Backis' farm was located one mile east of Lake Darling right next to St. Henry's Church which stood there for 50 years, you could look down and look at the dam, so my roots are very deep in the Souris River valley, having been very close to it all my life.

I became actively involved in Souris valley flood protection in 1969. I saw the devastating effect of what floods could do. Doctors were telling me about people who had nervous breakdowns. Realtors were telling me about people fleeing their homes and just forgetting them and the emotional problems that were involved. I saw the devastating effect, upon our office, of people walking dikes all night for

40 days with our office just in a standstill, and I said something had to be done.

I became President of For a Dam Limited, a 2,000-member citizen group supporting flood control for the Souris River valley. This group was very, very active in finding a solution to flood control. We chartered the plane to Washington, D.C. where 250 people paid their own way to go to Congress, I testified before committees different times in Congress for flood control, because we see the problems with it. Since 1980, I have co-chaired, with representative Orlin Hanson, the City-Rural Flood Control Committee, and recently I have served as Chairman of the Flood Control Committee for these hearings here, to get the information to Environment Canada about the problems and the needs for flood control.

In my years since 1969, in my active involvement in flood control, I believe I have reviewed approximately 20 alternatives looking at flood control for the Souris valley. I have got a book on alternatives to flood control, from the do-nothing approach to the evacuation of the whole valley, to channels across the border, to channels around the city, to Burlington dam, to raising Lake Darling, to Canadian Alameda-Rafferty projects. We have reviewed somewhere in the neighborhood of 20 different alternatives, and there is no question, when you review these alternatives, that this is the best all-around project for flood control.

I can tell you, in all of the time I have been involved in flood control as an active participant, I have yet to hear those people who are opposed to this project come in with one constructive alternative. They tell us "we want flood control for the Souris River", but I wait for them to come to me once and give me one positive approach to it. They haven't given us an alternative. Of the 20 that I know of, they haven't come in and said "this is the alternative we should have for flood control". We have to have some type of problem.

You look at the benefits of this project. This is a multi-purpose project. It looks at recreation, it looks at industrial use, it looks at flood control, it looks at water management. We think, when you look at all of the record, you will find the great benefits of this project, how much they outweigh the problems.

There is no project of this size you can build without some problems involved, but I think it has to be a balance. It can't be a special interest group, it has to be a balance to look at all of the needs, and when you look at all of the needs, wildlife, recreation, flood control, this is a project that should move forward, and it should move forward immediately. Thank you.

MR. WRIGHT: Thank you, Mr. Backis. Mr. Olsen? Bob Petry next.

S.L. OLSEN: Mr. Chairman and members of the panel, my name is S.L. Olsen, and I am a resident of the City of Minot. I am a native of North Dakota, and have resided in the City of Minot since 1946.

I grew up southwest of Minot 60 miles, and I can recall in the '30's when my father helped distribute pheasants and partridges in our area to help establish them. He was instrumental in planting trees and shrubs in our area, and encouraged others to do likewise.

I started hunting and fishing when I was nine years old, and have remained an avid hunter up to this time. I was one of the first people to fish in the area below Lake Darling when it was opened for fishing, and I have also worked with people like Ted Maradus (ph), who was most responsible for opening up Lake Darling itself for fishing.

In my job at the Minot Chamber of Commerce, I have helped organize the pheasant propagation program in co-operation with the 4-H Clubs in Ward County. I have been a member of the Minot chapter of the Ducks Unlimited since the day it was formed, and I thoroughly believe in the approach to the propagation of waterfowl in the United States and Canada and Mexico as it is practiced by Ducks

Unlimited.

I cite the above only to show that I have had a genuine concern for conservation and the propagation of wildlife and fisheries. I am also one of the 12,000 households in Minot that, in 1969, had to move out of my home with my family. I worked very closely with the City of Minot during that '69 flood and the subsequent threats to our community, and know the devastation that these floods had on the City of Minot. It was tremendously difficult to get the citizens of Minot to overcome that devastation of the flood and try to keep our community on a growing basis.

While I would like to see a solution to our problem where we could be protected from floods and still maintain a good environment for our fish and wildlife, I think we soon come to a point where we must determine what comes first, people or wildlife. I have worked with Canadian neighbours for over 40 years, and I know that we can work together. We need the Rafferty and Alameda dams, and if we in the U.S. participate in this project, I have every confidence that the people of Canada will do what they can to help protect the fish and wildlife in our environment.

MR. WRIGHT: Thank you. Bob Petry? Following Bob is Art Ekblad.

BOB PETRY: Mr. Chairman, Senator Wright, Mr. Burns, ladies and gentlemen;

It's a pleasure to have a few minutes to speak to you about flood protection. I am going to take this opportunity to speak to you from three different perspectives; one, that being of a park board member in the City of Minot; second, as one who has lived in the floodplain; and third, as a news photographer who has witnessed a community stressed when a flood occurs.

As far as our parks, we have three major park facilities in the floodway. They include our Souris Valley Golf Course, a multi-million dollar operation, when flooded takes water and silt to the point that it is put out of service for an entire season, and only after spending thousands of dollars to make it playable again, wondering what will come the following spring.

Moving downriver we come to a park called Oak Park. This park is a 90-acre site used mostly by walkers, picnicers, and people seeking relaxation. It also houses one of Minot's two outdoor swimming pools. As a result of past flooding, this pool has undergone a major rehabilitation due to the stress caused through floods.

Our third major area is Minot's Roosevelt's Park and Zoo. Need I remind you what flood damage would occur to our Olympic-sized pool, our gardens, and the trauma that would be placed upon the animals caused by another flood.

Now the person that lived in the floodplain. My wife and I bought a home in the Perkit Addition right in the head of the flood as it enters Minot during the summer of 1968. After a few months of hard work to finish this home and get it ready for occupancy, we were very happy come about Christmas time. The following spring the water came. The home was inundated. After the water left, 40 days, 40 nights, out came the floors, the walls, the insulation, as the home had to be rebuilt. After the '69 flood, and the ensuing years, the carpet was taken up so often that I think that every time spring rolled around it just kind of started rolling up around the corners.

Now let's move on to the news photographer. As a news photographer, you know that news photographers think floods and other natural disasters are perfect photo opportunities, but once you get beyond the initial hype you have an opportunity to witness and photograph the sadness that affects people as they see their life-long dreams disappearing in front of their eyes. I believe it is not necessary to explain further because others have covered this and the video which, with its pictures, said more than I can say in a couple of hours.

Bob Petry
Minot, North Dakota
Tuesday, June 27th, 1989

Thank you for this opportunity to speak, and I think that we need to work to make the Alameda-Rafferty dam a reality, and we need to do that now.

In addition, I am just going to deviate from what I wrote here, but I just think it's also important, because as incomes and young people trying to purchase homes and living in the valleys these days, when they go to buy a home and also they have to find out that they have to pay this flood insurance, and most of the homes in the valley are what we would call affordable homes for these people, first-time homes, very nice homes, but all of a sudden you get hit with this additional requirement to pay this flood insurance, and I think that that money, rather than going -- and if we could get the Alameda project, Rafferty project, this -- we have been told that we would no longer have to pay flood insurance. So I think that that would help these young people get a start in life, and it would also -- we have been talking a lot in the past here about floods of '68, '69. There is nothing we can do about that, that's gone. But what we don't want is we don't want to have to endure this again. We want this community to be able to grow, grow for the future of not necessarily ourselves, but our young people who are growing up and their young people. Thank you very much.

MR. WRIGHT: Thank you, Mr. Petry. Following Art Ekblad is Brenda Mattson.

ART EKBLAD: Mr. Chairman, Senator, and our friends from Canada; I am Art Ekblad, the immediate past president of the Minot Area Chamber of Commerce. I have been a resident of the City of Minot the past 30 years, and a resident of North Dakota all my life, and the Minot Area Chamber of Commerce supports the construction of the Rafferty-Alameda dams as proposed. The Chamber wants you to proceed with the proposed plan to give the Souris valley 100-year flood protection, and Mr. Chairman, I have filed the comments that involve the Chamber. I would like to talk about some of the other comments that have gone on in tonight's meeting.

Our good friend, Mr. Richard Cunningham from the North Dakota Wildlife Federation, his opening statement says he supports Minot flood protection. He didn't even tell us -- offer to teach us how to swim.

I want to talk to you about other dams that have gone on in this State, Garrison dam for example, that provided hydro-electric energy, and this is something that nobody mentions about Rafferty-Alameda. It's going to provide hydro-electric energy for the people of Saskatchewan. The Garrison dam, when that thing came into effect I watched the countryside, as a kid, light up with REA, all the poles that went out and all the people that got lights. I just got back from two weeks of fishing in Canada up on Rocky Lake north of The Pas, and I can remember ten years ago when Manitoba Hydro finally hit the fishing camp, and when we came into the camp, the first thing the kids wanted to show us was the pole in the middle of the camp providing electricity. Gentlemen, this isn't ducks, this is human environment.

Now I don't know where our fish and wildlife people are coming from, because if we listen to them we would put ourselves back 200 years. We wouldn't have Garrison, we wouldn't have Sakakawea, and they don't talk about Garrison dam, they talk about Sakakawea, because it's one of the finest fishing areas in the State. It's got a darn good fish factory below it. We look at Bald Hill dam, and another fish factory below it, and now they don't talk about Darling dam, they talk about Lake Darling because it, too, has a fish factory. But, you know, if somebody wouldn't have built a dam, they wouldn't have any fish factory to talk about, nor would they have anything to put as far as their environment that they are concerned about. It's been mentioned that the ducks and the geese and the wildlife we have in this State abound. To a large degree, its water management, and that's what we are talking about.

I don't know what we plan to do, you know. In the United States we have 200 million people, I don't know how many million people live in Canada, but that's a big change in the environment, and

I think it's about time that we quit killing projects like our good friend Lorne Scott did with Garrison diversion by complaining about carrying minnows across a divide in a minnow bucket. I think it's time that we get on the road for human environment and build Rafferty-Alameda. Thank you.

MR. WRIGHT: Following Brenda is Marv Semrau.

BRENDA MATTSON: Hello. For the record, my name is Brenda Mattson. I am executive officer for the Minot Association of Builders.

We have already gone on record with the Canadian government in support of the Rafferty-Alameda dam. We are all in this room, almost, wearing a button that says "I am a dam builder". That means a lot to a construction association. But since we have already gone on record I am here to speak to you personally about the Rafferty-Alameda dam. I am in favour of it.

I would like to say that after hearing and reading about the draft environmental statement prepared by the Canadian officials, I have to say that we all have the same concerns that have been raised by this statement. We are all only custodians of this earth. However, we have to weigh what is more important here, the temporary disruption of a few ducks, or the disruption of humans in and near the City of Minot, and it is very obvious to me what the answer to that question is.

Sir, I implore you and the Canadian government to consider the travesty that happened to the City of Minot in 1969, and '75, and '76. It was very devastating to our citizens. We do not want this to happen again. We also all want to enjoy the recreation that the wetlands provide us, but we will not even be able to enjoy this, and it would be very difficult to do if all our gunpowder were wet. Thank you.

MR. WRIGHT: Thank you. Marv Semrau? Following Marv is Dr. Richard Johnson.

MARV SEMRAU: Thank you. Good evening. My name is Marv Semrau, and I am a resident of Minot.

I am very fortunate, this evening, to have the opportunity to speak to you. Knowing that with the very limited time that we have, very few individuals are chosen tonight to speak, and I think that from the many, many supporters in this audience, it is my extreme opportunity and pleasure to be able to speak to you.

I have been an avid hunter and fisherman, I have had the fortune to grow up on the prairies in North Dakota, I have had extreme pleasure in that ability to be able to hunt and fish. I also was a resident of the City of Minot in the 1969 flood. I was displaced from my home for days as I helped other people and individuals move from their homes, and experienced the extreme difficulty that they did.

I am presently employed with a company that is now existing in the floodplain. We are very fortunate in the fact that have had good fortune and good business, and we would like very much the opportunity to expand. Since we are in the floodplain, we aren't able to expand and build upon our present site unless we do build our building on stilts. This certainly is a constraint to our business, it's hurting us now. We need Rafferty-Alameda to be produced today so that we can, you know, expand our businesses and increase what we now have.

There is no question about the fact that I very much appreciate the duck hunting and the goose hunting and the wildlife fishing and so forth within this state, but when it comes down to the matter of "if I have the opportunity to exist in a business and have a job and feed my family and earn income to pay taxes in this City and the State of North Dakota, as compared to having additional ducks or a temporary displacement of those ducks, the decision is very simple for me", and I would think that those involved in the decision with the go-ahead of Rafferty-Alameda will also understand the fact that Minot needs these dams and they need them now. Thank you very much.

MR. WRIGHT: Thank you Marv. Al Gimse, and then we have Walter Thompson to follow, and Donald Hanson to follow Walter.

AL GIMSE: My name is Al Gimse. I asked for the privilege of speaking here as I expected that the emphasis would be placed on 1969.

I would like to go back in history a little to the 1920's, and we had a series of floods at that time, and although we placed emphasis on the damage to Minot, it affects the entire valley, so I would like to speak from that standpoint.

For instance, now, we also talk about the flood in 1904. When the damaging flood, especially in 1927, came along, they began to talk about a 25-year flood, so they came out with a number of resolutions, and of course the 1930's took care of themselves to a certain extent, but people still remembered this. So one of the solutions that they proposed was that we put up a dam in every coulee all over the country, we would hold the water before it ever got to the river. Well of course there were a number of people, then, that took this quite seriously and they tried to do that. Then the 1940's came along and there were possibilities, then, that they could do something about these floods. However, we just waited.

So my purpose in being here is to say let's not wait until we have that 100-year flood, let's get busy and take care of it right now.

MR. WRIGHT: Thank you Al. Could we have now Dr. Johnson?

DR. RICHARD JOHNSON: Thank you. Canadian friends and people of the northwest prairie, I am Richard Johnson, and I am a physician and radiologist in Minot. I have been here over, actually over 18 years now, and I have participated in two of the last three floods in the Souris River basin. My wife and family live right here in Green Valley at 208 Souris Drive.

I would like to talk to you about the effects of the recent floods in regards to the physical and mental health of the people of Minot, as well as the effects on its medical facilities. Before I do that, I want to insert something that is not in the record here.

My grandfather was an Icelander and he owned a farm in Upham, or near Upham right next to the Freeman bridge. I am sure many of you people have driven by it. But my grandfather was required to sell his land at a dictated price and retire from farming and move into Upham, and I think that probably there are quite a few people that made similar sacrifices for wildlife in North Dakota, and I just wanted to kind of mention that. That maybe balances the record a little bit.

Getting on with what I really wanted to talk about, though, it is perhaps easy to see the rapid deterioration of the roadways during flood catastrophes that we have endured. It is perhaps less easy to tabulate the physical toll that is also encountered during these trying times.

Because of the physical stresses, many people probably have suffered acute back injuries and muscular problems that may linger for years. Medical complications caused by stress are well-known in the medical field to cause increased problems with high blood pressure and arteriovascular disease. It is difficult to measure these liabilities because of flooding, but there is no question that they exist.

Mental anguish caused by flooding is probably easier to appreciate, with a temporary or permanent loss of a home and belongings. Considerable frustration and anxiety and depression is usually present in a large segment of the population undergoing the stress of a flood catastrophe.

Medical facilities find it very difficult to operate properly in times of flooding. Transportation of the acutely ill or injured is often hampered by blocked thoroughfares because of flooding and required diking.

In my mind, there are probably two very special groups of people who suffer more than others during a catastrophic flood, namely the elderly and the disabled. It is my understanding that many elderly people completely lost their dwellings and were unable to regroup enough to re-occupy their severely-damaged homes. This same statement holds true for people who are disabled.

Also, the largest nursing home in the community is on the floodplain, and this facility suffered immensely in the last flood and found it difficult to maintain good care to the elderly people and disabled people who were institutionalized at this facility.

Thank you for your time and concern. It is my hope that a Canadian solution can be found for solving the flooding of the Souris River valley. Thank you.

MR. WRIGHT: Thank you. Don Hanson, You are on next sir. Following Don Hanson is Earl Allen.

DON HANSON: Mr. Burns, Mr. Wright, and other dignitaries; my name is Don Hanson, Chairman of the Renville County Commission.

In the last 23 years I have served on the Commission, so I am well-acquainted with quite a few floods, the same as the people in Minot. I appear wholeheartedly in support of the Rafferty-Alameda dams. This is the first solution that takes care of the whole valley, and it's time to get on with it.

I have filed some briefs with the Canadian people, and there is about eight areas that the County is concerned with, and in its environmental statement on the Alameda-Rafferty it covers every one of them, and it's the first that I know of to have the rural people wholeheartedly, up in the north between Minot and the Canadian border, wholeheartedly in favour of this project.

I am pleased to be able to appear, and I will not read all this in its entirety, I'll just file the brief, and thank you very much.

MR. WRIGHT: Thank you Don. Next we will have Earl Allen.

EARL ALLEN: This witness, Earl Allen, considers it a compliment to be allowed to testify before this august body in support of Rafferty-Alameda dams, yet we come here with heavy hearts, and many broken hearts, having endured six floods or flood emergencies in a period of ten years, one decade.

We have had so many ups and downs and psychological reverses that it is really depressing, as the doctor has just testified. Many of the flood victims are prematurely dead and buried.

My credentials are not officialdom. I served one term as city alderman, but I probably held the dubious distinction of being Minot's number one or number two flood victim. You don't need to be an engineer or an excavator or a dirt contractor or hydrologist to know what we know about floods, and it is indeed a paradox, a real paradox, when our friends who are environmentalists -- I am being polite tonight -- have a tendency to stymie this project which would help humanity.

Historically we have, history tells us we have fiddled for 20 years, not like Nero fiddled, but we go back to the Tennessee it was the snail darter (ph) 35 or 40 years ago that made us the laughing stock of the world, a few years ago it was, as it was referred to here in your minnow buckets, the gizzard chad (ph). We haven't heard anyone who is worried about the gizzard chad coming to United States from Canada from behind these two dams.

We have seen flood insurance, as it was testified by one gentleman here, go from 29 cents a thousand to $4.59 a thousand. Congressman Dorgen (ph) has spoken out very vehemently about this. They have cut the coverage as well, and that's the Federal Emergency Management. Our flood insurance premiums have bled us white, and they continue. They continue to bleed us white even today.

We believe that the Wildlife Federation members could be very likely sincere, and we trust that they are serving a worthwhile purpose. However, I think the greatest minds do think, and we hope that they are sincerely wrong in most of their fears, and in the alternative, we believe that Canada, we implore you, Canada, to remedy any possible environmental defects and get these marvelous dam projects rolling in record time. I do thank you.

MR. WRIGHT: Thank you, Mr. Allen. I sure do want to thank you people for standing by, being very polite to these people that are making their statements. Thank you very much.

Now in closing comments, an expression of thanks to the Minister by Bob Schempp, the City Manager. Bob?

BOB SCHEMPP: Mr. Chairman, Mr. Burns, representatives, other representatives of Environment Canada, and ladies and gentlemen; I am City Manager of the City of Minot, and my name is Bob Schempp, and as background, I have been with the city since 1960, and I have experienced the 1969 flood and the '72 flood and the '74 and '75 and '76 floods and the '79 flood, and I have worked for flood control since 1969 in various capacities.

More important, as a child, I lived in Mandan, North Dakota and experienced the '43 flood and the '47 flood and the '49 flood, and I thought the '43 flood was fun. I was a young man, we got flooded out, the water was coming and gee, I could swim in that water. I jumped right off the back porch. That was until we had to move out, and we didn't stay out for 40 days 40 nights, but when we came back we had water on our floors. In '47 the same thing happened, in '49 the same thing happened, and I saw what it did to my mother. I saw the devastation, personally, of flood.

So when we came to Minot, we bought on the hill, we didn't buy in the valley, because we knew what floods could do. But in Mandan, North Dakota they have a dam that was built since then, and a channel project, and dikes, and the valley is pristine and it grows wildlife abundantly, and people live in that valley peacefully. The same thing can happen here.

Now Mr. Chairman and Mr. Burns, on behalf of the citizens of Minot and this area, I want to thank you for taking the time to allow us to present our feelings about the Rafferty-Alameda project. We all here sincerely appreciate the obvious effort that you directed towards the project, and the fact that we will all have input in your final environmental evaluation. After the testimony you have heard tonight, I am sure you have no doubt that people on this side of the border support complete water management, including flood control, and that the Rafferty-Alameda project is of extreme importance to us.

I know you also realize we are very concerned about environmental issues, including the human environment. We all know of man-made water development projects that compliment the needs of man and the needs of nature like the project I mentioned in Mandan. Rafferty-Alameda is one of those types of projects, at least it can be, if allowed by reasonable, responsible people reaching decisions based upon the needs of nature and the needs of man. For example, when an environmental concern about water quality was raised by our own EPA, the City of Minot jumped in and volunteered to pay the cost of a high-level discharge at Alameda dam to solve that water quality problem.

We have been talking about, studying, and implementing water management programs for decades. We are now on the verge of obtaining flood control, for us the crown jewel of a complete water management program. Because of our unique drainage basin, and because of the unique project to be built, the balance of water management will follow automatically out of necessity. Two provincial governments, two federal governments, a state government, a local government, a joint water management board, and many affected and interested citizens have the opportunity to join in a water management project that is truly worthwhile.

As a result of the project, I predict North Dakota will see a solution to flooding problems, controlled flows on the Souris, artificial recharge of underground aquifers, investigation and procurement of additional water supplies for all of northwest North Dakota, improved methods of treated sewage discharge, and the understanding and support of an entire region for management of water in this semi-arid floodplain.

The flood control cornerstone of water management must be laid now. We have the opportunity now, we must act now, or we will lose for ourselves, and more importantly for our children, the benefits of complete water management.

I want to thank you folks for coming out on a warm summer evening and expressing your support, and I want to express our support to you, Mr. Burns, and particularly to you, Stan, for coming to Minot. I urge Environment Canada to find ways to allow this flood control and water management project to proceed. Thank you very much.

MR. WRIGHT: Ladies and gentlemen, that finalizes our program. We all want to say thank you for a fine job well done. Thank you very much: The meeting is closed.

(Meeting adjourned at 9:47 p.m., Tuesday, June 27th, 1989)

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Clare Sommersall
Souris, Manitoba
Wednesday, June 28th, 1989

Transcript of Proceedings

(Meeting commenced at 6:30 p.m., Wednesday, June 28th, 1989)

MR. MILLARD: We can now turn to the submissions, and before proceeding I would just remind you again about the ten-minute requirement. The first submitter is the Mayor of Souris, Clare Sommersall.

CLARE SOMMERSALL: Good evening. I am Clare Sommersall, the Mayor of the Town of Souris and lifetime resident of Souris and area. On behalf of the Council and the citizens of the Town of Souris, I would like to welcome you to our community and to thank you for the opportunity of expressing council's view regarding the proposed construction of the Rafferty and Alameda dams.

We firstly would like to mention that, for those of us who live adjacent to the Souris River valley, water quality and quantity in the river are very important issues and require careful and constant monitoring. With quality and quantity factors in mind, the Council has discussed what beneficial effects the proposed construction may have on the water in the Souris River. The following points have been mentioned:

Number one, water conservation and management in the Souris River basin can be viewed as a positive approach toward lessening the negative effects of drought and spring flooding in the area. In 1988 the benefit of having storage in Lake Darling, North Dakota was evident to us when we continued to receive water in an amount exceeding the requirement of 20 CFS from June to October as set out by the International Joint Commission in 1959, and as of today we are receiving 28.6 CFS, and this after one of the driest years on record.

Water quality may be improved by removal of Estevan sewage effluent to the Shand Power Station to be used as a cooling water source. Weyburn sewage, from its lagoon treatment facility, will be monitored to determine if any unacceptable impact on the reservoir may occur.

Wildlife and waterfowl habitat will be replaced acre for acre by proponents of the project, therefore there will be no net loss.

Measures introduced by the International Joint Commission provided for an equal division of the natural flow of the Souris River as it crossed into North Dakota. Therefore, Saskatchewan has a legal right to retain 50 percent of the flow. We are advised that Saskatchewan water entering Manitoba represents 29 percent of the flow and therefore, if the project proceeds, our flow will be reduced by half or 14 1/2 percent. Most of this reduction will take place during spring runoff and the effects will be negligable.

Large storage reservoirs, while subject to evaporation, may induce precipitation by rainfall in our area and reduce the possibility of drought in this semi-arid region.

There will be no use of underground water to fill the dam.

Management of the dams is to be governed by Saskatchewan, North Dakota, Manitoba, and the federal government, thereby eliminating the possibility of illegal retention or misuse of water for regional purpose.

From an overall perspective, we feel that proper water management and control, such as is proposed by the Rafferty-Alameda projects, can only benefit the Souris River basin, and in turn, the inhabitants of the area. We feel that to delay this project for another study would be a terrible waste of taxpayer's dollars, estimated at approximately $2 million, and a waste of time estimated at two years. This delay is costing the Saskatchewan Government, their taxpayers, more millions of dollars every month.

We submit this for your consideration in the hope that your recommendations to the Honourable Lucien Bouchard will be favourable towards this project. Thank you.

MR. MILLARD: Thank you. Doug Cavers?

DOUG CAVERS: Good evening. My name is Doug Cavers, and I am Secretary-Treasurer of the Rural Municipality of Cameron. I am representing my Council at these proceedings as my Reeve is unable to attend.

The Souris River trickles through our municipality, which takes in the town sites of Lauder and Grand Clarier (ph), Manitoba. My Council is well-informed on the issue of Rafferty, and they feel that they are in full support of the project.

At this time I would like to make a few points about the Initial Environmental Evaluation draft and the impact of Rafferty on the Rural Municipality of Cameron.

Firstly, the Rafferty project will have little direct benefits or drawbacks to our municipality. There is a slight chance that it could reduce the drastic effects of major flooding. However, we must remember that many tributaries come into the Souris after Rafferty. Also, during severe drought years, it could affect the flows here by as much as 15 percent while filling, but if this were the case North Dakota would have to negotiate an appropriate amount as per the International Joint Commission agreement.

To explain this another way, 15 percent of the minumum 20 cubic feet per second is only 3 cubic feet per second reduction, so it only brings it down to 17 cubic feet per second.

As far it as indirectly effects the project, when full, is estimated to have a 24,000 decameter net evaporation level behind the dam. There are no ways of measuring what affect this will have on rainfall or its location, but simple science tells us that if moisture goes up, it's going to come down. With westerly winds, we are hoping that the R.M. of Cameron receives its share.

My Council has concerns about wildlife and the destruction of rare and endangered plants in our area. The Lauder Wildlife Management Area takes in approximately 12 square miles close to the Souris River. Wildlife and plant life are given some protection in this area. However, my Council does not agree with the environmental report's findings. Our weed control supervisor has noted that two of the six plants listed in our area as being rare or worth protecting are noxious weeds. It is his mandate to destroy all noxious weeds and noxious weed seeds in our area. In ordinary terms, if you want those plants to survive in our municipality, you better hope that he doesn't see the Winged pigweed or the Bur-ragweed.

The Department of Natural Resources released a five-year report to the Legislature on wildlife ending in March, 1987 which shows that the great grey owl is to be found in Eastern Manitoba, not in this area of the province. The one sighting registered in this report must only represent a fluke sighting, and my Council doesn't feel that this bird should be included in the list.

I don't know whether I am going to say this right, this next bird's name properly, but I hope it's pronounced this way: The ferruginous hawk is being re-established in the area after a 50-year absence. Again, it is not realistic to include them on the list.

As far as the long-tailed weasel, it prefers free-standing water, and because the Souris is low, shouldn't be considered as natural habitat for the animal.

These are just a few points, but it brings into question the accuracy of the report. One must remember that just because the habitat is changing, it will not happen overnight, and the time it takes to fill Rafferty will allow the various species to adjust to any changes.

The Council believes that this project is no different from any other. It will not be 100 percent beneficial, nor 100 percent detrimental. We know that there will be costs, but we believe that the benefits outweigh those costs.

There are no guarantees with this project. We cannot prove that the wildlife and the plant life will not be affected, but there are no guarantees that they would be able to survive and thrive under the existing conditions.

We have treated the Souris River like an endless conveyor belt. It has been used to carry away our wastes, both natural and chemical. As soon as it is out of our sight, we don't worry about it any more. We have drained our agricultural lands which takes habitat away from wildlife. Those waters are full of salts, pesticides, and fertilizers, and they all go into the Souris River, and after all the destructive things we do to our river, we expect it to continue giving us clean water for drinking, habitat for fishing and waterfowl, and remain a source of recreation. It is true that attitudes must change, but the Rafferty dam project only stores water, it does not put wastes into the river, and to hold it responsible for the actions of others is not fair.

The 1978 Souris River Basin Study suggests that more dams should be put in Manitoba, thereby holding as much water as possible for when it is needed and providing more sites for fishing enhancement. If there were no dams on the Souris River, most of the water would be gone by June, because 80 percent of the river is fed by the snow melt. My Reeve believes that the longer we can keep the water from reaching the Hudson Bay, the better. What all this means is that we must try to increase the quantity and the quality of the water flowing down the Souris River valley. This project will secure that water source for the future. It will not happen right away, and it will not be without its drawbacks, but at least it is a start in the right direction.

The past couple of drought years have shown us just how little water can flow down the Souris River. My Council feels that the 1959 agreement made by the International Joint Commission has more effect on our municipality than Rafferty will ever have. This agreement forces Saskatchewan to send 50 percent of all water to the United States and only receive 20 cubic feet per second back in Manitoba. We must remember that this is separate and different from Rafferty.

I hope you will consider these points, and I thank you for allowing me to have the time to make this presentation on behalf of my Council.

MR. MILLARD: Thank you. Elgin Harrison?

ELGIN HARRISON: Thank you. Good evening ladies and gentlemen. I am Elgin Harrison from Alida, Saskatchewan. I am a farmer, and my purpose of this brief is to show my support for the Rafferty and the Alameda dam projects. I was raised on a farm approximately seven miles from the Moose Creek. I am a cattle man, I have operated a mixed farm since 1960. I have served on the Rural Municipality of Reciprocity for 18 years, first as a Councillor, then as a Reeve.

In years of drought, the Alameda dam in our area would be of great benefit, with the reservoir on the Moose Creek providing the supply of water from which to pump or to haul from for irrigation and a supply of water for small communities in the surrounding area. Water supplies have been a great concern in the past several years, the past year especially. I am an avid supporter of wildlife, and a member of the Saskatchewan Wildlife Alida branch, so I know the value of conservation, especially water.

In this country, when waterholes dry up, all forms of wildlife are forced to relocate to find adequate water, therefore leaving the rest of the country without wildlife, and also the very young animals and birds are left to die or be killed by predators because of these water shortages. I have seen families of young ducks heading across a field there and be three miles from the closest water, and the speed they were making it through the hot sun, I am pretty sure that most of them will never ever see it.

Other benefits I see are a power supply, future flood control, recreation which is needed in the southeast corner of our province, as well as many others.

Another thing I would like to say is that a good portion of the Souris River flood basin does not come from the area that's going to be withheld by the construction of these two dams. For instance in my area there east of the Moose Creek you start out with the Oberton (ph) Creek, the Antler River, the Thunder Creek, the Lightning Creek, the Gainsborough Creek, which all flow together and take a short detour into North Dakota and then back, and joins the Souris just south of Melita, and that area provides a good extent of, I would say, better than 50 percent of the total water in the Souris River by the time it hits to Manitoba here. These are non-controlled waterways now. I say non-controlled, there is a couple of minor dams on them, but very little supply and which will not affect, greatly, the amount of water which is runoff. 90 percent of it or better will get by them.

There is a deal where ducks are threatened to be losing their nesting areas along the Moose Creek, and for those of us who have lived along it and seen it, I haven't seen a duck yet that would build in water where it's going to get flooded out, because we always check the proposed year by where the ducks are building their nest. If they build on the high ground, you can generally expect a lot of water. If they build them down near the flats, you can expect a dry year. Well in the past three years of my farming, I have never even seen a duck's nest, so I guess that has to tell you something. If there is no water around, they won't be there even if it is ideal habitat.

The Souris River last year in July, the Moose Creek, you could kick your boots off in it and walk for miles right down the riverbed and never get your socks wet. There were people with pastures along there that hauled water all summer long to their cattle, and then turned and hauled water all winter too, from wherever they could get it. In this day and age water is our most precious resource, and it should be protected. What it boils down to is would we sooner see our water get dumped in the Hudson Bay, or see it maintained on the prairies where we need it. I thank you very much for my time and I appreciate your having me here.

MR. MILLARD: Thank you. Bob Larter?

BOB LARTER: Mr. Moderator, ladies and gentlemen; I represent myself, I am a private citizen. I live at Kenosee Lake in Saskatchewan, but was a resident of the Souris valley for about 23 years. I was a former John Deere dealer at Oxbow and Estevan, and was the Member of the Legislative Assembly for Estevan for approximately six years, from 1975 to 1980.

I can remember the President of Deere and Company, at the time another fellow and I wanted to go into the John Deere business in Estevan, and he stated emphatically -- he was from just across in North Dakota somewhere -- and he stated emphatically that this was certainly the wrong place to go into business, that this was one of the dried out areas of the '30's, the Estevan area, and I think we proved beyond a doubt, we proved him wrong over the years. As long as we got the moisture we had the crops, and some of the finest people live in this and that area, and we certainly have no regrets about making that move. It is for that reason that I am supporting the Rafferty dam project tonight. I would like to just present a short brief, and then with some closing remarks on some other statements.

Bob Larter
Souris, Manitoba
Wednesday, June 28th, 1989

In presenting a brief to this inquiry I would, first of all, like to admit at one time I was actively involved in building the Rafferty dam complex. As a John Deere implement dealer and as a citizen, as a former MLA from Estevan, I was actively involved in the many times the valley was flooded when I lived there. When I say actively participated in, I mean that in sandbagging, the use of men and equipment, like all of the people in the Estevan area used their resources to assist people that were in dire need, and we were only too glad to do it, and it certainly was at no cost to the people involved.

My family was one of the privileged few that were fortunate enough in owning a cottage on Boundary dam. For eight years we were lucky to be able to spend our summers on the water. I don't think there is anyone in this room, or anyone that I know of, that has any argument with Boundary dam today. With the many miles of shoreline that would be created by a Rafferty dam, there would be more opportunity for many more families to enjoy such pleasure as the eight summers we spent on Boundary dam.

No one can question that Boundary dam has really meant a lot to Saskatchewan. It not only has provided drinking water for a city of 10,000 people in Estevan, but supplies cooling facilities for Saskatchewan's largest coal-generated power station at Boundary dam. Rafferty dam would ensure there would always be an adequate water supply for the Boundary dam lake. I will not try to get into the merits of the Shand Power Station as it was not on the horizon when I lived in Estevan. I do know that we do require many years of lead time to bring new power stations on stream, and certainly having to avoid purchased power, then I think any power grid has to be brought on stream and planned to be brought on stream many years ahead of when it actually does come on stream. Most certainly, water created by such a project would unquestionably be of additional benefit to any additional power outlets in the southeastern part of the province.

There are many other benefits to Rafferty-Alameda. These include value-added elements such as irrigation and I, as a citizen I don't know just how far irrigation can go, but I do know there would be some benefits, especially for hay land along the waterways created by Boundary dam.

I don't think there is any doubt that the controlling of the water would have an effect on a city the size of Souris here where you do have flooding. I believe it is the only place in Manitoba that has flooding problems, and I know that you do have your drinking water from the Souris, but it would certainly eliminate any flooding problems in the future, as it would in North Dakota.

I would also like to just mention in closing, Manitoba has been successful in getting additional environmental protection through the Canada-U.S. agreements such as the establishment of water quality objectives and the joint water quality monitoring board. If Rafferty-Alameda proceeds, Manitoba gains more environmentally than if it does not. If Rafferty-Alameda is stopped, U.S. law provides for a construction of a four-foot increase -- and I'll just repeat what the Secretary of the R.M. of Cameron has said -- in the height of the lake and Darling dam. If this is the case, then there would not be any water quality objectives established, nor would there be a joint water quality monitoring board for Manitoba. Thus, by pressing for an independent panel review of the Rafferty despite the fact that there is no direct Saskatchewan-Manitoba linkage from an international law point of view, Manitoba is actually hurting itself environmentally and giving up environmental protections it has already successfully negotiated.

It is clear, as well, that there are political considerations that play here insofar as the Manitoba demands for an independent federal panel are concerned. It is important to note that two umbrella organizations representing all the municipalities through which the Souris River flows in Manitoba are in favour of the Rafferty-Alameda being built.

I would just like to make a quote from Saskatoon Star Phoenix by Terry Weber (ph) on September the 12th, and this is: "Manitoba Environment Minister Ed Connolly has dismissed calls for an Environmental Impact Study on a controversial dam project saying it is too late and unnecessary". Also from Jack Penner: "The Manitoba Government thinks the Rafferty dam projects will benefit them. They want to see it go ahead say Natural Resources Minister Jack Penner".

I would like to mention at this time that there has been a flip-flop, both by the Premier and by the appointing of two ministers that have taken opposite points of view just in recent days, in the last few days, and these flip-flops are taken for only one reason, and that is political pressures, and I can tell you what political pressures are as a former MLA. I believe that the flip-flops by the Premier and the two newly-appointed ministers are because of the pressures they are receiving politically. Thank you very much, Mr. Moderator.

MR. MILLARD: Thank you. David Snell?

DAVID SNELL: Mr. Chairman, committee members, ladies and gentlemen; in making this presentation on behalf of the R.M. of Browning, I want to emphasize our support for the Rafferty-Alameda project. Recent experience in our R.M. has been such that we feel that the projects' potential to bring regional economic spinoff has been demonstrated.

Commencement of the work at Rafferty resulted in an immediate commercial response in the region. Even though we are not within the immediate project area, we observed a boost in economic activity that coincided with work at Rafferty. This was reflected in increased activity among contractors and numerous indications of intent for new entrepreneurial activity. All of this potential for positive growth disintegrated when the federal licence was revoked. Having seen how local confidence was encouraged by the project, we are deeply concerned, now, to see that potential growth put at risk.

As a municipal government, we are very much aware of the need for a strong federal commitment to economic diversification and regional development. The Rafferty-Alameda has already proven its value in providing impetus to commercial and entrepreneurial development. In the long term, we see it as a vital component in providing opportunities for small businesses in tourism development. There is good potential for initiating a hospitality industry that will provide full and part-time jobs within the Alameda area.

Our Council is unanimous in its support for the project, and we are confident that the plans for compensation and mitigation are fully adequate. Our deepest concern is that the vitality of the area be protected, that opportunities for young people are provided, and that the future of our health and education services be assured through economic growth and security. I urge you to work with us, not against, in protecting the future of the people of this part of the province. Thank you.

MR. MILLARD: Thank you. Dan D'Autremont?

DAN D'AUTREMONT: Ladies and gentlemen; I am Dan D'Autremont from Alida, Saskatchewan. I am making this presentation on my own behalf, but I feel that some of the concerns I hope to bring forward are also held by many of the farmers and their neighbours in our area.

My purpose in making this presentation is to let the committee know the views of one citizen and farmer from the area surrounding the Alameda project, and by extension, the possible views of other citizens in both Alameda and the Rafferty project areas. I saw too many organizations expressing views which did not seem to be in accord with my own views and those I was hearing from my neighbours and friends. Therefore, I felt it was important that at least one person from our community make those views known, and I see we have one other member from our community here tonight. My presentation is not based on so-called scientific fact, but rather on personal observance. I have only limited knowledge of that area of the Souris valley to be affected by the Rafferty dam. However, I live only 20 miles from the Moose Mountain Creek valley and am more familiar with that area.

Dan D'Autremont
Souris, Manitoba
Wednesday, June 28th, 1989

I have considered the Alida area my home for 31 years. My father was born on the farm which I am presently operating. My grandfather settled there in 1904, and I would like to relate a story to indicate just what the area was like at that time, and how it has changed. When my grandfather settled here he had to travel to the Moose Mountains to get firewood as there were no trees in our area. This trip was not an easy one because of the lack of roads. The trip took five days to accomplish with a horse and wagon. I now have an average of 30 acres of brush, trees, and sloughs on each quarter section I farm. Progress, and the coming of man, has been beneficial for the trees and brush which provide shelter for all sorts of wildlife.

My father was born on the farm in 1912. He tells me that he had never seen a white-tailed deer in the area until 1934, because until that time there were no trees for proper cover. Now the white-tail have reached such numbers that they are almost considered a pest. Not only have they done very well, but also every other form of wildlife has done likewise.

The deer do quite a bit of crop damage as they seem to prefer to eat cereal crops to grass. Deer are also very lazy animals. If possible, they will stay in cover which is close to their source of food. They stay in the brush and trees in the crop lands, not down in the valleys, when that would mean travelling any distance to their food supply. In the winters the deer like to stay where the snow is the lightest, which in our area seems to be on the roads. During winters with little snow, the deer stay in the farmland to eat in the fields. During severe winters the deer stay in the farmland to get at the easiest to find food supplies. In our area, the deer like to eat the baled hay in the farmers' yards or grain from the bins they kick holes in. They are not down in the valleys because the snow is too deep for them to move easily. The deep snow also traps the deer, making them easy targets for coyotes.

The deer and other wildlife species will be forced from the valley by flooding. Those species which are not aquatic will move into the higher levels of the valley or onto the farmland. Those species which like water will now have water if the dams are built. They will have much more shoreline than ever before.

I even raised Laborador Retrievers. I haven't hunted ducks for quite a few years, and I even gave up raising dogs because we had no water in the fall for either the ducks or the dogs. My own personal observation, during aircraft flights over the Moose Mountain Creek, is that in most years there is very little water left for breeding ducks after the spring runoff has passed downstream. There can only be an improvement in the long term by having water available for all wildlife species all year round.

As a farmer, I am interested in the agricultural aspects of the Rafferty-Alameda dam projects. There will indeed be a loss of both cultivated and uncultivated farmland. I sympathize with those farmers who will lose their farm sites. I have an emotional attachment to my own farm site because it was the site my grandfather lived on for 50 years, my father was born on this farm site and lived there most of his life. I have lived there for 30 some years and am raising my family there. Therefore, I can understand their commitment to that piece of land which they consider to be their homestead. The only fair thing to do, for those persons displaced from their homes is to provide more than adequate financial compensation. Those farmers who are losing farmland which is not a farm site should also be compensated, but perhaps with less emphasis on the emotional attachments.

I also see many new opportunities for long-term agricultural development arising from this project. There will be new opportunities for irrigation, something the farmers of this area could only dream of before, because until now our moisture supply has been in God's hands. More water may well mean an expansion in the livestock industry, with growth in hogs, cattle, or poultry production in southeastern Saskatchewan. When this project goes forward, there will also be opportunities for growth in agricultural spinoff industries. Why should we be denied the chance to have more industries and jobs in some of those secondary agricultural industries? Right now, one of our limiting factors in gaining those secondary industries is our lack of water and the lack of an assured supply of raw material because of our reliance on nature to supply moisture for our crops.

I also have a personal interest in the completion of the projects. Many times during the afternoons and evenings when we are looking west hoping for rain I see clouds building to the northwest. Why do the clouds build so often on the horizon to the northwest of us? The reason is because of the Moose Mountains and the numerous bodies of water there. With the evaporation of water from those numerous lakes building into cumulonimbus clouds, those living downwind receive a larger supply of moisture than many of the communities which lie north or south of the line east and southeast of those lakes. It is my hope that evaporation will cause storm buildups over the lakes created by the Rafferty and Alameda dams, and that those storms will travel eastward, dropping their precious moisture over my farm and the farms of my neighbours. If this means that I might also receive more hail, I am prepared to accept that price to get more rain, and we do need more rain because this spring, so far, we have only received two inches in our area.

I am very disappointed in the stand taken by the Manitoba Government. Initially, Manitoba was in favour of the Rafferty-Alameda projects. Why has that changed? I heard the Mayor of Melita on the radio say that if the Rafferty-Alameda project does not go ahead, then Manitoba should build a dam along the Souris in southwest Manitoba. Is the Manitoba Government opposed to Rafferty-Alameda because of narrow self-interest? Do they wish to enhance their province and receive the financial and political rewards which may accrue from such a large project? Driving over here I passed Oak Lake, a body of water which I believe is held back by a dam or a dike. Also, has there not been major channeling of rivers in Winnipeg to prevent flooding? Perhaps this is a case of "if a project is good for Manitoba it's fine to go ahead, if the benefits are going somewhere else and can't be transferred to Manitoba, then the government is trying to stop the project and get the benefits to Manitoba". I was pleased to hear that many of the people from southwest Manitoba are in favour of the Rafferty-Alameda project even though the Manitoba Government is not.

Members of the federal Environmental Assessment Review Process, I would recommend to you that you approve the construction of the Rafferty and Alameda dams, that whatever must be done to lessen the impact on people and wildlife be done, but that the projects proceed as quickly as possible.

In closing, I can only wonder if those people or groups who oppose this set of projects, and other similar projects, are prepared to give up their share of what we call the good life. Would they be prepared to give up electrical power to their homes, power which would be generated at the Shand Power Station? Would they be prepared to give up food which would be grown on the newly-irrigated farmland or on the land receiving more moisture than before? Are those opposed prepared to accept the fact that they or their children may very well have to move from our communities to find jobs which would be created if Rafferty and Alameda dams were to go ahead? Please take this opportunity to provide all of us with a chance for a better life, with more jobs, more electrical power, and more of that fluid of life, water. Thank you.

MR. MILLARD: Thank you. Could you, when you finish speaking, would you mind leaving your address with us if you have a spare copy, please? We will take a brief recess, now, for about five or so minutes.

(Meeting adjourned at 7:42 p.m.)

(Meeting reconvened at 7:50 p.m.)

MR. MILLARD: Can we come to order. Ladies and gentlemen, pleaMR. BURNS: At the beginning I forgot to mention one of the people who is here, and the gentleman that's here is Jean-Guy Sakrevsky, and he is here to handle any questions or material in French, so if there is anyone out there that would like to speak in French, we have the capacity to deal with it.

MR. MILLARD: The next presenter is Keith Robinson.

KEITH ROBINSON: Mr. Chairman, officials from Environment Canada, and members of the audience. Would you like me to speak in French or -- that's fine, I don't know any French.

MR. BURNS: We are obliged to observe the niceties.

KEITH ROBINSON: Okay. My name is Keith Robinson, I am the spokesperson for the group of Manitobans for the Protection of the Souris River, and I am giving a brief on behalf of that group. We have approximately 50 members in our group, most of whom live in Souris. I live in Souris where I own a small manufacturing business. Before I came to Souris I was an environmental scientists with Hudson Bay Mining and Smelting Company in Northern Manitoba for 4 1/2 years. During that time, water quality and water monitoring were my main concerns.

Our group, as a whole, is not necessarily against dams. We realize that dams are very important to the people of the Souris River. If we did not have the dam here on the Souris River, we would not have enough water for recreation or drinking. If Lake Darling in North Dakota did not exist, then at times during the summer we would be without water. As a matter of fact we advocate that smaller, more efficient dams may be the answer to Saskatchewan's water problems. However, that option was not considered. We are, however, very concerned about the Rafferty dam, a dam which, unlike our own dam here, will take a very long time to fill, and once it fills will never stay filled for any length of time. For example, if Rafferty dam had been in place in 1911 it would not have filled until 1954, and then it would have started emptying again.

So you may ask, what does that mean to us here in Souris and in Manitoba? Well it means that we will have a significantly reduced water flow. Now maybe it would be all right if that reduction in our water flow was only 10 percent, or even 15 percent. The problem is, though, that we will be faced with a 29 percent reduction in our water flow on the Souris River during a very large part of the life of this project. This figure of 29 percent comes from the Manitoba Department of Natural Resources. It is also important to note that during the filling phase of this project, the flow will be reduced in every month of the year.

We think that it is imperative that Environment Canada measure the impacts of this project using a 29 percent reduction in the water flows on the Souris River as a figure for their investigation into the impacts on Manitoba. We also want Environment Canada to determine what percentage of the time Rafferty would have been in a filling phase from 1912 to 1988 if it had been built in 1911, because the historical records are available to determine that.

Another major concern which our group has is the drought criteria which is included in the 1959 Interim Measures which governs the water apportionment for the Souris River. Under the 1959 Interim Measures, North Dakota is obligated to give Manitoba a flow of 20 cubic feet per second during the summer months, or 6,054 acre feet per year. However, in periods of severe drought, North Dakota is not obligated to give us anything at all.

Now I am going to break away from my report just for a second, but one of the things that I noted in the meeting down in Melita was that those people that were for the project, one of the big reasons why they stated they were for the project is because they expected an increased water flow, and another reason they were for the project is because they said that the 20 cubic feet per second that came over the border from North Dakota, which came from Lake Darling, was one of their saviours and it's saved a lot of people who otherwise might have had to move their stock or their cattle or whatever. Now this is possibly the most serious threat to our water supply in Manitoba. Some people may still say we could get by with 29 percent less water, but it will be hard to get by with no water coming across the Manitoba-North Dakota border.

It is stated in the Initial Environmental Evaluation that North Dakota could declare severe drought conditions more frequently than in the past if Rafferty-Alameda dam goes ahead. Now what our group wants to know is how much more often will the drought criteria be invoked, that is how much more often will the water flow at the Manitoba-North Dakota border be shut off in the future? Our group is proposing that Environment Canada determine how many times the drought criteria would have been invoked from 1912 to 1988 if Rafferty had been in place in 1911, and I again repeat that the historical data is available to do that. We also want to know, if there is no flow coming across the border during a hot, dry summer, how long it will take for the water level in the small reservoir here at Souris to drop to a level where it would jeopardize our municipal water supply here at Souris. So in effect, what we are asking is will this project mean that the Town of Souris is forced to find an alternative water supply whether we want to or not.

Another question we want answered is that of water supply for farmers along the Souris River. When the drought criteria is invoked and there is no flow coming across the Manitoba-North Dakota border, will those farmers using the river for irrigation be forced to stop irrigating at a time when they need it the most? Also, when the drought criteria is invoked, will those farmers using the Souris River to supply water to their cattle have to stop doing so because of reduced water quality? At this time I would like to touch on flood control, because I think it is important that the residents of Souris know how much flood control they can expect. Let's look at what would have happened if Rafferty-Alameda would have been in place for the major flood years in the past.

In 1969, with Rafferty in place, we would have had a zero percent reduction in flooding on the Souris. In 1974 there would have been no reduction in flooding on the Souris, as in 1975, and 1979. In 1976, the biggest flood in recorded history, there would have been a zero to 3 percent reduction in flooding on the Souris River. This information comes from the Manitoba Natural Resources technical report. October 1988. I invite you to check it out yourself.

In summary, from the information that is presently available, it appears that the benefits of this project are fairly minor and the negative impacts of this project will be quite major for Manitoba. I would also like to issue a challenge to the people in the audience. Check this information out for yourself. Ask the Environment Canada technical people about the 29 percent reduction in flow, or about the drought criteria. These people are unbiased, this may be your only chance to get a straight answer.

Souris is one of the most beautiful towns in Manitoba, and the river is very important to every one of us. It is our duty to protect it. Our group is calling for a full environmental assessment of the project with an independent panel to determine the full effects of the project on Manitoba. Incidentally, this is the same position presented by the Manitoba Government at the meeting in Melita. As the Manitoba Government stated at that meeting, no one has done an assessment of the full effects of this project on Manitoba. It is time that one is done. Thank you.

MR. MILLARD: Thank you. David Stewart?

DAVID STEWART: Mr. Chairman, ladies and gentlemen; I am David Stewart, I live near Killarney, I am a retired medical doctor and university teacher, and at the moment I am representing Friends of Turtle Mountain, which is a small local conservation group with interests spreading beyond our own area. I'll start out by saying that the interim environmental study which we are talking about makes perfectly clear that further study is required, and we agree with that. We think, however, that the terms of reference in that interim report are not quite wide enough.

David Stewart
Souris, Manitoba
Wednesday, June 28th, 1989

Now the problem is that we have got a river system which flows within three jurisdictions, so in rough terms Saskatchewan has a little more than a third of it, North Dakota has a little more than a third of it, Manitoba has a little less than a third of it. But you must remember that Souris River water travels on in Manitoba through the Assiniboine, through the Red, into Lake Winnipeg and so on, and so anything that happens to the Souris River water before it reaches Manitoba has a fairly considerable effect on us. It sort of reminds me, really, of the three men who bought a cow between them, and one fellow got the job of leading the cow to pasture, and the other fellow was in charge of the middle section and did the milking, and the third guy was tail-end charlie with a bucket and a shovel. And maybe there is a moral in that one, I don't know. But my personal opinion, and I am being personal about this, is that it seems to me presumptuous that Saskatchewan should have set up what they call a Souris Basin Development Authority which are proposing plans which have a significant effect downstream.

I am just going to discuss three points very briefly. One is water quantity. We all know about the cycles of dry and wet years, and there are more dry years than wet ones. Prairie rivers like the Souris have a very low gradient, which means that when there is a surplus of water coming down them, it can't drain away fast enough and we get flooding. It also means that when the input is too small, the evaporation takes it almost down to no flow at all, and there is no doubt in my mind that the the Rafferty-Alameda project would, indeed, help to reduce flooding in heavy runoff years in Minot, but I am just wondering whether the flood control for Minot could be handled as well, or better, on the U.S. side. The question in my mind, however, is will these dam projects help to protect Manitoba against flooding, and I wonder about that, because there is a very large input of water, in heavy snowfall years, coming in to the North Dakota loop. Practically the whole of the south of the Turtle Mountain range drains down into the Souris River in North Dakota, and in the heavy snowfall year that can be very considerable. Supposing that we have a series of dry years, how is North Dakota going to react to a reduced flow coming in from Saskatchewan? I ask whether pressure would then be applied to top up the flow from Saskatchewan in one of three possible ways: It might be by pumping water into the Souris from the Missouri basin, which is what we were all fighting against in the Garrison project and would be unacceptable to Manitoba; the second would be to pump water into it from the aquifer underneath the Estevan area, but that's highly salty water and that, even, would be unacceptable to Manitoba; and the third was to the possibility of draining the South Saskatchewan River down into the upper reaches of the Souris.

That brings to mind the historic North American Water and Power Alliance, or NAWAPA, by which there was a grandiose scheme of taking water from as far north as Great Slave Lake and by a series of natural channels, and dams, and pumping stations, transferring water down through some of these channels, including the Souris, into the United States. Now they tell us that that project is dead and buried, but this sounds to me like something which is awfully consistent with it.

Now given a succession of dry years, what would be the flow from North Dakota into Manitoba? Keith Robinson has raised that point because, at their discretion, they can declare a drought crisis and turn off the tap, and I think that in previous discussions there has been too much discussion about flooding problems. We all know that there are floods on the Souris River, my family and I canoed down from Coulter to Souris in 1974, and we could, it was all one big continuous lake as far as Hartney. We couldn't even tell, at times, where the channel of the river was, but I wonder, also, if we shouldn't think back to the '30's. I wasn't very old then, but I do remember the drought that hit this corner of the province from here south and west, and I am just wondering if the people who had farmland in the Souris River valley at that time might not have been a shade better off than the people whose farms were blowing away on the upper levels, whether even maybe the wells along the Souris valley gave them enough water, even in those days, to water their cattle. We have to think about those possibilities as well.

I think, also, that we have got to look even more closely at the quality of the water that comes downstream ending up in Manitoba. Here's where tail-end charlie comes in again. We have the possibility of increased salinization, we have the prospect of some large reservoirs in Saskatchewan which may become stagnant and give rise to algae blooms and resulting toxins. We know that sometimes, even in places like Pelican Lake, the algae bloom will produce toxins which will kill cattle. We have human and animal wastes being poured into the river from Saskatchewan through North Dakota, and the other thing is that a good part of the Manitoba part of the Souris River is marshy on its edges, and for the sake of wild fowl and fish, particularly, every marsh needs to be properly flushed out at intervals, which is what the flooding does.

One more point before I stop, and that is that the IEE pays very little attention to the Shand generating plant. We, in Manitoba, grew up on Souris coal from the Estevan-Bienfait area. We know that it's good enough coal, but cheap and dirty, and we want to know what the effect, what the risk of air pollution is downwind? Both Manitoba and North Dakota should be thinking of that very carefully because the prevailing winds are, as you know, from the northwest or from the southwest. At least, if those power plants are built, they must meet federal government emission standards. One wonders, in this day and age, if there may not be better ways of getting at that energy than burning the coal. We are talking, for instance, of coal gasification, which uses the coal to produce fairly clean fuel analogous to natural gas, and which sorts out the pollutants and turns them into economic by-products. I don't know whether that's been thought of.

The conclusion is that there are too many unanswered questions. We give our strong support for a full environmental assessment and review process by an independent panel, and we are very pleased indeed that the Honourable Glen Cummings has taken this stand on behalf of Manitoba. Thank you, Mr. Chairman.

MR. MILLARD: Thank you sir. Arnold Baker?

ARNOLD BAKER: Mr. Moderator, ladies and gentlemen; my name is Arnold Baker. I am a private citizen. I am not representing anyone or any group. I am a retired farmer and high school math teacher.

Before I give my presentation, I would like to just say to Mr. Dan D'Autremont that I certainly would be one of the people who would be willing to reduce my standard of living to whatever is necessary to protect the environment, whatever it takes. So there are lots of people who would do that.

Now I came to speak here today because I would like to express my concern about what human beings are doing and are planning to do to this planet, this unique earth that's our home. Although I don't live in the Souris valley I think I have a right to say something about it because it is affecting the general environment, and whenever this happens anyplace, I think it's affecting everybody. We all live on this earth together, and we have got to protect it together.

I am concerned about the old habits of human thinking that treat the earth as though it were infinitely resilient to human onslaught. What we are discussing here, the proposed construction of the Rafferty-Alameda dams on the Souris and its tributaries, could be a landmark case in the history of human exploitation of nature. If we fail to protect the natural environment here this time then I, for one, think that the situation may be hopeless because we are talking more and more about protecting the environment, but when it comes right down to it, is anybody willing to do it? It is all talk, it seems.

I would like to say something about the people whom I have been reading and listening to the most, the people from SCRAP, who have done an incredibly thorough job, I think, of investigating how and why the project was able to proceed the way it has. They brought to light a compendium of untruths, half-truths, and distortions of truth disseminated by high officials associated with this project that shocks common sense. With this example before us, can we assume that every development project that we see is based on this same kind of philosophy? It seems to be a system based on greed, power, short-term gain, and complete ignorance of long-term effects.

The most powerful person advocating this project is Mr. Grant Devine. Why does he want this? I don't know, but powerful people like big projects and this is a big project, and it's in his riding, apparently, and he can get the support of all the little people around there because they all think they are going to benefit from it, and so they help each other. So a powerful person surrounds himself with these people who share in the spoils of the big projects. He seems to be able to tell people anything that he wants in order to get the thing through. Most people will not look at the scientific studies of the results that may come about through this project, so that these people can say anything they like and people will believe them.

I heard a lady quoted on the radio the other day who was an advocate of the project and she said she and others like her need the water, they need it for irrigation, irrigating their gardens and their fields and so on in dry years. She thought that it was reasonable to spend -- well I ask her the question, does she think it's reasonable to spend $125 million of other people's money so that she can have some irrigation, and does she know or care that as the years go by and large amounts of water evaporate, that the water being used to irrigate will become full of salts and that will destroy the usefulness of her soil? Does she know that in the past other civilizations and cultures have been able to irrigate successfully for 2 or 300 years, which maybe seems like a long time for us but is really an extremely short time, and then they had to abandon their land because it wouldn't produce any more? Does she think it's acceptable that our soil and land should last only a few hundred years? Is that all we're looking for? She also said that the loss of a few species due to the construction of the dam is unimportant compared to the dry lands that she wants to irrigate, but we have no right to wipe out another species. Besides, we need all species on earth. Every time we lose one, we are that much closer to becoming extinct ourselves. The preservation of species is a good indicator of the state of preservation of the entire earth's ecosystem. These species are endangered because we are destroying their living areas, their habitat. We are rapidly destroying the last remnants of the vast prairie ecosystem that once covered the grasslands of North America. If we destroy the last vestiges of this prairie what moral right have we, as rich as we are, to ask the poor people of Brazil not to destroy the rain forest? When the rain forest has gone the way of the prairie, and the lady's garden is dried up as well as the Alameda and Rafferty reservoirs, then what good will our rights and dams do to us?

I hear that the people of Minot are pleading for Canada to proceed with these dams so they can be protected from devastating floods. But why did these people build on the floodplain of a river in the first place? Didn't they know that it might flood? They built there, probably, because it was cheap and convenient and they didn't worry about disastrous consequences. If we build these dams they won't be cheap, but it will be for short-term gain for some people without worrying about disastrous consequences. It would be better if we gave the 125 million to the people of Minot so they could move their homes to a safer place.

Why does the river flood in the first place? Why is it a regime of mud or flood? Why is it a sick river? Well I think because a lot of it is modern agricultural activity where, without considering the consequences, people take out all the trees and open up all the fields, break up all the grasslands and summerfallow everything so that there is less organic material in the soil so it can't absorb moisture as well, and so on and so on, cut, drain all the wetlands, and this could be having an effect on the increasing floods. We should be putting the land and its ecology back in proper shape instead of destroying more of it with large dams. Small dams might be a better answer to hold back small amounts of water over large areas, or like small dams over large areas, rather than putting it all concentrating in one place.

Okay. I would like to make the following specific points with regard to the proposal:

1) I think we need an independent panel to review this project. I believe the Saskatchewan Government and the Government of Canada have shown that they can't really be trusted to do what's right. Maybe the Government of Canada can now that the court case has shown that they should have checked it in the first place, but they weren't too interested before that.

2) If the dams are really not as harmful as I think them to be, why is the Government of Saskatchewan in such a hurry, and why do they object to the complete environmental assessment review process?

3) There is no logic in spending $1.3 billion on a power plant to produce electricity at twice the cost of purchasing it from Manitoba, at the same time burning coal and producing acid rain and carbon dioxide affecting the greenhouse effect.

4) The proponents say the harmful effects can be mitigated. This is small consolation. This merely means that the effects won't be as bad as they might have been. The mitigation will be strictly speculative, whereas the harm will be very real.

5) In places in the U.S. projects of this nature have been stopped because they threatened endangered species. I think the fact that the habitat of the ferruginous hawk and Baird's sparrow will be destroyed is enough justification to stop the project.

6) Before this proposal proceeds, all the deficiencies should be studied. The studies provided by Saskatchewan have been very superficial and inadequate.

7) We need the full environmental assessment review process because there is no knowledge of what this proposal will cause to happen in Manitoba. Manitoba Natural Resources says Manitoba flow will be reduced 19 percent over the long term, and during the years of filling, 29 percent, and this could take 40 years.

MR. MILLARD: Are you just about at the end?

ARNOLD BAKER: Yes, I just have one more point to make.

MR. MILLARD: Thank you.

ARNOLD BAKER: This proposal appears to be illogical and useless, and I therefore think there may be ulterior motives, and the only logical use I can see for the system is for transferring Canadian water to the U.S. When the inevitable water shortages show up, the pressure for inter-basin transfers of the water will become irresistable.

MR. MILLARD: Thank you. Doctor Cooper?

DR. PHILIP COOPER: Mr. Chairman, ladies and gentlemen; My name is Philip Cooper. I am a physician and surgeon serving this community, and committed to working to promote its health and development, and I am grateful for the opportunity to speak at this, the very first public meeting to be held in Souris to discuss concerns relating to the proposed Rafferty-Alameda project, an issue which has been hotly debated here on the basis of precious few objective facts to date. Hopefully, some of that heat energy can be converted into a little light this evening.

We should not lose sight of the fact that we are here to discuss matters relating to this document, the IEE, a document of exemplary clarity and recommended reading for those who really want to know the potential hazards of what is being proposed by the Souris Basin Development Authority.

We are not here to discuss the economic wisdom of irrigating Saskatchewan, or of extending that province's coal-fired power generation capacity, and although we appreciate the appeal of this project in certain quarters in Saskatchewan the purpose of this meeting is for you, Mr. Chairman, to hear local questions and concerns relating to the IEE, and I would challenge the appropriateness of making time available this evening to speakers from Saskatchewan who, in addition to having had their own community meetings in Regina, Oxbow, and Estevan, cornered over one-third of the meeting in Melita on Monday, and have done the same here again this evening. As your road show has had the opportunity of hearing their views repeatedly, one can only assume that they are here tonight to appeal to the selfless generosity, or perhaps the imagined gullibility of the people of Manitoba, their neighbours. Mr. Devine reportedly informed the provincial premiers meeting in Alberta yesterday that all the people who matter have been consulted anyway.

Whenever I press people on why they support this project, or don't support it, the answer eventually comes down to a belief, a belief that dams are a good thing or dams are a bad thing. Well we physicians call such beliefs clinical impressions, and they are notoriously unreliable. There are several other medical principles that are relevant here:

Firstly, Primum non noce (ph): Before you try to do some good be very sure you are not going to end up doing more harm in the process.

Secondly, the principle of informed consent. Before I operate on anyone I try to tell them all the alternatives as honestly and objectively as I can, and insist on their participation in making responsible decisions, often the decision to do nothing.

Thirdly, the scientific tradition. The tradition of studying proposed treatments, the burden of proof being on the proponent in the face of healthy skepticism. My scientific training teaches me to be suspicious of miracle cures and the latest wonder drugs as most have side effects, some serious and apparent only after many years of use. Would you want to be given a new treatment based only on information obtained from the manufacturer's advertising copy? I have learned to admire the dogged optimism of prairie folk in the face of difficult climatic and economic conditions, but I am frankly dismayed by the complacent acquiescence and wishful thinking of those who want to believe what the SBDA is telling them, want to believe that they are really guaranteeing better flood control and more water in spite of all evidence to the contrary.

This community should not be divided into the fors and the against, we should be united as don't knows, want to knows, need to knows on the basis of the available information to date. However, initial mind sets were formed some time ago based on the perceived political lie of the land, the sophisticated public relations work of the SBDA, or sometimes just misinformed self-interest. Those with open minds should, nevertheless, be prepared to modify their views after studying this document.

I hope our local politicians follow the example of their colleagues in the Provincial Government, both provincial opposition parties and the federal government in seeking to have Manitoba's interests adequately represented. After all, their responsibility is to local people, not to be apologists for Saskatchewan's projects. The very identity of this town revolves around the Souris River and the swinging bridge visited each year by thousands of people from all across North America. How many would want to swing their way across a foul-smelling ditch? On the basis of the available facts, Manitobans have little to gain and potentially much to lose, and a more responsible, informed local analysis is essential before deciding whether to proceed or not.

Some say that the project promises more water for Manitoba. Quote:

> "In periods of severe drought, as defined by an aggregate volume of storage in the refuges of less than 66,600 cubic decameters, North Dakota is not obligated to pass .566 cubic meters, 20 CFS, per second and can pass a lower flow. It seems likely that declarations of severe drought conditions would occur more frequently in the future. The

> reduction of flows to North Dakota and Manitoba cannot be avoided if the reservoirs are constructed and operated as set out by the SBDA."

Some say it will bring better flood control.

Quote:

> "As a result of the project there would be an overall reduction in Souris River flows and an overall reduction of flood damages in Manitoba. The impacts from flooding, however, would be increased in some rural areas where flooding occurs at relatively low water levels and there will be increased flooding of agricultural land."

Some say that there will be three times as many acres flooded as irrigated. Some say that the project will bring benefits without any financial costs to Manitoba. I think that if you look beyond this gift horse's teeth to its inner parts, you might be reminded of what happened to the Trojans. Quote:

> "In moderate to wet years an overall positive effect on water quality and aesthetics would result",

but that happens without a dam, doesn't it? Some say that the river has been deteriorated rapidly with present management, so why not do something, anything, even at a predicted cost of $125 million, and let's find and fix up the problems as we go along. The irresponsibility implicit in this approach is breathtaking.

In spite of these huge projected costs, it seems that the possible benefits will be short-lived and limited in scope because of factors such as salinization of irrigated land, eventual silting of reservoirs, and the early departure of the construction crews following a brief bonanza for Estevan's newly-diversified economy.

We see no clear statement of provision for water management in severe drought years in Manitoba, but are enigmatically informed that, quote:

> "In North Dakota water rights are established by priority in time."

Perhaps one of the visiting scientists could explain that statement later.

High mercury levels are predicted for the first ten to 20 years if the project were ever to become operational, seriously damaging fisheries and potentially affecting the water supply of Souris which, as the IEE notes, is the only major community in Manitoba that uses water from the main stem of the Souris for municipal supply. There is no mention in the IEE of possible mitigation for this.

The IEE predicts significant, quotes:

> "impacts for fish, fowl, and federal land",

and I would like Doug Cavers to know that I saw a great grey owl on the river last weekend, another fluke perhaps.

> "moderate impacts on water quality and quantity in Manitoba, and is concerned by information deficiencies such as non-comparable databases and hydrological studies and the absence of an Environmental Impact Study on the 26 percent of the basin which would

> be on the receiving end of all this in Manitoba".

Quote:

> "The most significant effects in Manitoba would result from water management works and plans undertaken by North Dakota to offset the decrease in water volumes available to users in the state. On average, Manitoba would receive about 85 percent of the water it has received historically. The frequency of very low or no-flow conditions would increase, and average annual flows would be reduced. Water quality effects would depend on flow. Basically any time that higher than present normal flows occurred, quality would be improved. When lower than normal flows occurred, quality would be impaired. Most concerns about quality would occur during dry periods when the U.S. would be passing only the amount of water required by the interim measures. Releases of high-nutrient water from the wildlife refuges would aggravate already-serious algae growth problems in the quiet reaches of the river affecting recreational values, further reducing dissolved oxygen concentrations, and possibly increasing the frequency of fish kills. Currently, at some times of the year, waters at the boundary do not meet Manitoba free ammonia objectives for protection of aquatic life, and the incidence of non-compliance may increase with reduced volumes. The water may not be able to assimilate sewage discharges from towns along the river. The City of Minot may have to upgrade its sewage treatment facilities. Predictions of water quality effects in Manitoba are somewhat uncertain. The Manitoba reaches of the Souris River would experience bacteriological pollution during spring and fall waterfowl migration periods",

though I have a greater concern for the public health implications than the wildfowl, I must confess. Modeling scenarios by the SBDA and the Corps of Engineers do not adequately address the collective impacts of the project on Manitoba which would reduce spring flow by as much as 50 percent. More definitive information is required on the water quality impact of irrigation development as it may affect trans-boundary waters. Quotes:

> "This is a major deficiency which must be addressed before the project can proceed. Ultimate effects on water quality depend on the way in which project components are operated, filling periods of the reservoir, and the complexity of the system makes absolute predictions about the water quality difficult".

As Glen Cummings, Manitoba's Environment Minister, said in Melita on Monday, due process has not been observed. Manitoba's concerns have not been addressed and there has been no response to date to two requests for relevant information from the U.S. Army Corps of Engineers.

The Environmental Assessment and Review Process is one of self-assessment, and close scrutiny with objective audit is therefore entirely proper. Those who have been in the critical vanguard are to be commended for their efforts on our behalf, and I would particularly like to mention Joe Dolecki, Gerry McKinney, Elizabeth May, Keith Robinson, and the Souris Valley Echo.

Environmental issues should transcend partisan politics, though it seems here that political expediency has taken precedence over economic and environmental evidence. I don't know whether the proposed project is a good idea for Manitoba or not, though neither does anybody else if they are honest. I have no objection to this project in principle, provided it can be shown to be environmentally safe and of overall long-term benefit to the whole basin. But in the best spirit of rural small c conservatism, we should be deeply suspicious of anything proposed upstream on our river, and remember that water management can also mean water mismanagement.

Those of you who have seen the work already started at Estevan with such indecent haste and initially without federal approval will perhaps have wondered what's the big hurry. If it's such a good idea this year, won't it be an even better idea next, after people have been reassured by proper studies, and if not then perhaps our tax dollars could be better spent elsewhere. It's taken 60 years to appreciate all the disadvantages of some of the huge dams that were built around the world in the 1930's, and we should be prepared to learn from the mistakes of others before embarking on an ill-conceived, under-researched, and a potentially irreversibly-harmful project of this magnitude.

I fully understand that our local farmers desperately need a reliable and manageable water supply, but the jury is still out on whether this project will be the way to go about getting it. We should look beyond what people would like to believe to the facts, the facts of a scientifically credible independent basin-wide study, and act responsibly on them if we are to avoid disappointment and acrimony in the future.

The federal agencies are clearly aware of their responsibility to ensure downstream water quality, and we should leave them in no doubt of the strength of feeling here as they prepare their report for Mr. Bouchard. There can be no July vacations at Environment Canada if the Minister is to receive more than a cynical whitewash document on August the 1st.

This Initial Environmental Evaluation does detect, quotes:

> "significant environmental effects or public concern, or both",

and public review by a panel is therefore essential. Thank you Mr. Chairman and ladies and gentlemen.

MR. MILLARD: Thank you. Howard Young?

HOWARD YOUNG: Good evening. Before I start I would like to, on my behalf, apologize to my good friends in Manitoba for Dr. Cooper's remarks. I don't think I ever thought of Manitoba and Saskatchewan being different places. We are not from the old country. We are the same people.

Mr. Millard, Mr. Burns, members of the environmental committee, ladies and gentlemen; My name is Howard Young and I live in Carlyle, Saskatchewan. I am a retired insurance agent and real estate broker and a farmer before that. My mother's folks came from Ontario and settled on the Moose Creek 15 miles north of Oxbow in 1882. My father came to Carlyle with his family in 1902, and I lived in the area all my life except a short stint in the navy during World War II. I spent eight years as Reeve of the R.M. of Moose Mountain, and I am a Past President of the Carlyle Chamber of Commerce.

In those years we often talked about and became concerned about the reducing water levels in Kenosee and White Bear Lake, which are part of the Souris basin. It is interesting to note that in the 1880's my uncle's diary, great uncle, mentions that the Moose Creek ran so high you could only cross it on horseback. At the same time the lakes in the Moose Mountain, Carlyle Lake and Kenosee Lake, were so low that trees were growing, and had been growing for up to 100 years away out in the lakes. There just wasn't any water. That was poor water management both in the Moose Creek and in the lakes, and I think that we have to change that.

Howard Young
Souris, Manitoba
Wednesday, June 28th, 1989

I am President of the Moose Mountain Water Resource Management Incorporated which is made up of cottage owners, towns, surrounding municipalities, the White Bear Indian Band, and some corporate sponsors. With the co-operation of the federal and provincial authorities we have been successful in clearing waterways in the Moose Mountain so that the next water cycle, when it comes, the lakes will fill. Kenosee and White Bear Lakes would definitely have dried up again, as they were in the 18th and 19th century, if water management had not been undertaken. The finances in the park were provided by the provincial government, and the White Bear Indian Band and the Department of Indian Affairs paid for the work in the reserve area.

The condition in Moose Mountain is exactly opposite to that in the Moose Creek and the Souris. In the Moose Mountain we have natural reservoirs but we do not have water, because in the past it was backed up by beaver dams and then it evaporated. This is now partially solved.

Conversely, the water in the Moose Creek and the Souris is lost because there are no reservoirs and it rushes to the sea. The management plans for the Souris and Moose Creek has been years in developing and is now finalized. Financing has always been a major problem in the past, but that is also now in place. The fact that our American friends have contributed 41.5 million American dollars makes the project even more feasible and timely. Without this financial assistance we would not be able to make the Rafferty-Alameda a complete project which will not only guarantee water to operate the power plants to keep our lights and utilities working in the future, but will also give flood protection to all communities and farms along the Souris River in Saskatchewan, Manitoba, and North Dakota. It will also improve the water supply for these people as well as many who do not live in the valley.

There are also many bonuses, including desperately-needed recreational facilities to relieve the overcrowded Kenosee, White Bear, and Cannington Lake resorts, as well as to greatly improve the wildlife environment. Both the projects in the Moose Mountain and those in the Souris and Moose Creek must be completed and maintained if sustained development is to be possible in southeast Saskatchewan and southwestern Manitoba.

The IEE states that after the projects are completed, the duck hatch will be decreased by 4,000. I farmed in the late '40's and '50's on sloughy land east of Manor. I know ducks well. We lost up to 25 percent of our crop, in wet years, to the ducks. We didn't have insurance either. We had purchased land with VLA help, but otherwise we were as poor as church mice and could not afford to feed the ducks. The only way to discourage them was to burn the grass off around the sloughs, and even then they often went into the crop to nest.

I also know the Moose Mountain valley. There are thousands of small creeks and coulees in the sides of the valley, and every one has long grass and short buckbrush growing in them, which is perfect for ducks and other birds. Regardless of the level of the water in the reservoir, there will be many more times the good nesting sites there are now, especially considering that the shoreline will be much longer. Mr. Paul Twietmeyer, who was brought up and hunted the Moose Mountain Creek, told me yesterday that there would be 400 to 500 percent more nesting places after the reservoir is filled.

Any place that there is water on the prairies there will be ducks. They are very versatile and well adapted to many varying environmental conditions. Men who carry guns are their greatest threat. I challenge the claim of loss of duck population. I also suggest that the expense of mitigation for this cause should never have been required.

I have attended the Oxbow and Estevan meetings and many speakers have knowledgeably answered the majority of the deficiencies, and I concur with them. Mr. Gerry Fichtemann certainly cleared up the doubts about the flora and the fauna endangered species, and I thank him for that.

Howard Young
Souris, Manitoba
Wednesday, June 28th, 1989

You might be interested, Mr. Baker, that they found one hawk's nest in the whole area that's to be flooded, and they are going to put up six artificial nests that are quite acceptable to the hawks.

Unlike some of the speakers, I do not have a disdain for the environmentalists. Perhaps I am a practical environmentalist myself, as I feel that most people are, and I agree that all future project proponents should be careful to cross their T's and dot their I's before they proceed.

Mr. Bert Weichel of the Saskatchewan Environmental Society gave many interesting facts in Estevan. His statement that the Shand would use more water than the natural runoff in the Souris in some years certainly reinforced the need for a reservoir for not only water for power production, but also for other users. I do not agree, however, that the project should be stopped because of design or because of some water is lost by evaporation. The real problem is that all surplus water is lost every year, and none is saved for any purpose.

Reference was made to holding the project because of Indian artifacts. I know the native people, and I am positive that they are not happy to have others robbing their ancestral graves in the name of archaeology. They would be very happy if their ritual sites, whether 200 or 10,000 years old, were quietly covered with water.

Western Canada is a wonderful country with a bright future, but remember, Mr. Chairman, a very young land in white man's standards. We are a bit over 100 years old, and any developing people are going to make mistakes. However, no mistake was made by the Souris Basin Development Authority. They had been issued a federal licence to go ahead and begin construction on the Rafferty dam. Construction had commenced and hundreds of people had planned their lives and finances with this knowledge. Canadians have come to trust the word of our government. And I guess the Canada Deposit Corporation is a good example. Everybody buys saving bonds and your salesman say "it's guaranteed by the Government of Canada", we trust them.

The Wildlife Federation claims that the federal government has not followed its own guidelines. This should not have been sufficient cause to stop a project which was legally under construction. Precedence is a strong law, and the historic precedents are that all dams built in the past, including the one creating Wascana Lake, were built without federal study.

Western Canadians, hardly any of them, would bring the human anguish and the financial loss to his neighbour which would has resulted from the lifting of the licence for the Rafferty-Alameda project. If the courts upheld the claim of non-compliance, I accept it, but the court should have reprimanded the Minister responsible and made it clear that proper procedures must be followed in the future before any licence is issued. For a second court to uphold the judgment with less than ten minutes deliberation is surprising and frightening. Perhaps the judges were not aware that the Wildlife Federation had said that they were not really opposed to the project, but rather the procedures which were or were not followed before it was licensed. If this is the case, perhaps it will make it easier to understand the judges' actions.

However, Mr. Burns, this is the third hearings I have attended, and it has become very suspect that there are political and special-interest group overtones as well as opportunists involved in the opposition. Most of the opposition to the project is coming from groups and individuals who are far from and not very knowledgeable of the area. It also has become abundantly clear, sir, that all the deficiencies have either been cleared up completely or committed to full mitigation.

With this knowledge, and the evidence of overwhelming area support to the project, I respectfully suggest that you and your excellent independent, unbiased panel will accept these facts and recommend to the Honourable Lucien Bouchard that the licence to the Souris Basin Development Authority be reinstated. I am also confident, Mr. Millard, after observing your fairness and honesty, that your report will relay the same message to the Minister.

I must tell you, Mr. Chairman that there was a time when I understood that the Alameda dam was being constructed for flood control only, that I felt a series of smaller dams and gated culverts would have caused less disturbance to the local farmers. However, after studying the plan and reading the IEE, I appreciate that much more than flood control is involved. It is important to realize that in years of surplus runoff that water needs to be stored so that in lean years the water will be released in a controlled manner to ensure Manitoba its share of water. A case in point is last year when there was no runoff, and if North Dakota had not had the foresight to build dams, Manitoba would not have received its legal share of flow if any.

MR. MILLARD: Mr. Young, you are running out of time.

MR. YOUNG: For goodness sake.

MR. MILLARD: Perhaps you could just file it?

MR. YOUNG: I'll give you the conclusion.

MR. MILLARD: Fine.

MR. YOUNG: In conclusion, I would like to make the following recommendations for your consideration:

- That the licence for the project be reinstated to the Souris Basin Development Authority as expediently as possible;
- That an authority be formed of all interests in the Souris valley drainage area, Saskatchewan, Manitoba and North Dakota, to help the planning and operation of water resources to the best possible benefit of wildlife and humans;
- immediately investigate the possibility of storing water from the Antler, Gainsborough, Plumb, and other creeks which are part of the Souris basin for the benefit of Manitoba. And I might mention that the Antler and the Gainsborough, there is millions of gallons of Saskatchewan water comes, and you are welcome to it;
- Establish an appropriate no hunting area as well on both reservoirs;
- Finally, in future, involve all segments of society in initial planning of any minor or major project. Where everyone is invited to offer their ideas, a plan can be formulated which will not lead to confrontation.

We must work together if we are going to realize the tremendous potential which exists in the beautiful prairies and parklands of the Souris Basin in Saskatchewan and Manitoba and I commend you, Mr. Millard, as well as Mr. Burns and all of the panel, for their patience and juris and understanding, and I know that you have a hard time with those chairs every night. Thank you very much.

MR. MILLARD: Thank you. We will take a five or so minute break.

(Meeting adjourned at 8:52 p.m.)

(Meeting reconvened at 9:04 p.m.)

MR. MILLARD: Can we come to order ladies and gentlemen, please. The next presenter is Arlene Robinson?

ARLENE ROBINSON: Mr. Chairman, officials from Environment Canada, and interested people; my name is Arlene Robinson, and I am speaking on behalf of myself and my descendants.

Arlene Robinson
Souris, Manitoba
Wednesday, June 28th, 1989

I grew up in the Souris district as my father did before me. I moved away to attend university and to find a job. My husband and I moved back to start a business and a family. I can honestly say that living away from Souris has made me appreciate more deeply many of the things that it has to offer; family, friends, community commitment and, of course, the river.

When we decided to move to Souris, the river was one of the strong drawing points. We are avid canoers and cross-country skiers, and we enjoy recreation on the river year round, as do many of our local residents. The river's presence enhances the beauty and quality of life in this town immeasureably.

Of course no one is going to pick up the river and take it away from us completely, we expect that at least the valley will always be here, but a river is also the water that flows through it, and the one thing we do know about the Rafferty-Alameda dam project is that during its filling phases, the water volume coming into Manitoba will be reduced by an average of 29 percent according to the Manitoba Natural Resources technical report of October 1988. I fear that the reservoirs will be in an almost perpetual filling phase, and that our river will never be the same.

I know that there are some people who do not care that the river's natural beauty will be diminished, so aside from pure aesthetics, the filling phase will create other major problems for the Town of Souris, the most obvious of which is the need for a new source of town water. This is something that can be measured in dollars and cents. The estimated price tag is $1 million, half of which would be borne by provincial taxpayers and the other half by the citizens of Souris. That's a great deal of money for a small town the size of ours.

There are local people who might think that this is all for the best, as we need a new water supply because of deteriorating quality during the summer months. I would like to suggest to those people that there are less expensive alternatives, that is provided Saskatchewan is not allowed to cut off our water supply from the river. A good carbon filtration system could effectively improve water quality at a much lower cost. Let's examine all the alternatives carefully before locking ourselves into any one of them.

Before proceeding further, I would like to say a few words about the Monday night meeting which I attended in Melita. I am not sure if you all realize that there is a bus load of people from Estevan and district attending all of these meetings. Now I don't want to be nasty or petty, and I am sure that they are all wonderful people who believe in their cause. They have every right to attend these meetings. But I do object to the fact that on Monday night we heard no less than six presentations from residents of Saskatchewan, and again tonight we are hearing more submissions of this nature. The rules, as I understood them, were that an individual could make only one presentation, and that was to be in the center closest to where he or she lives. This is fair and logical, and not one person from Manitoba felt it necessary to intrude on your three Saskatchewan meetings in such a way. Shame on you. You had your chance to speak in your own province and you shouldn't be monopolizing Manitoba time. This is your turn to listen.

Another thing that struck me about the meeting in Melita was the number of times that people speaking on behalf of the project said the words "I believe". We almost could have written a song: "I believe for every drop of rain that falls, a dam is filled, I believe that somehow, in the great somewhere, opposition will be stilled". Enough for the musical interlude.

It's very obvious to me that the Devine one in Saskatchewan wants us all to believe. He wants all to have faith that building these dams will solve every problem we ever had on the Souris River. He thinks he has the Devine right to play God with our river valley. When something sounds too good to be true, it usually is, and it's our right and duty to question it. That's what these meetings are all about, and that's what the environmental assessment and review process is for. It's called EARP for short, and there are many people who think that we need a BEARP, a better Environmental Assessment and Review Process. Of course that's another matter. If the EARP already in place is pursued as far as it can be, we will find out much more information about the possible effects that these dams will have on Manitoba. We need more information.

Some of you will recognize the next portion of my presentation as it appeared this week in the Echo as a letter to the editor, but if you will bear with me, I would like to repeat it here tonight.

Does the Rafferty-Alameda dam project fall into the category of environmentally sustainable development? Is it truly a water conservation project? The Government of Saskatchewan would have us believe that the answer to both of these questions is yes. In order to answer these questions correctly and responsibly, however, it is important to fully understand a few definitions. We all know that water conservation means saving water, and of course we all believe in it. Water is very precious. The distressing thing about the Rafferty dam is that it could be defined more accurately as a water evaporation project. As already mentioned, the Souris River will be deprived of 29 percent of its water flow into Manitoba, and where will 75 percent, as estimated by Environment Canada, of this impounded water go? To parched farmland that desperately needs moisture to grow crops? No. To towns and municipalities whose water supply is threatened in times of drought? No. 75 percent of the water that Grant Devine proposes to hold behind the Rafferty dam will evaporate into thin air. 75 percent. For those of you who believe that giving up so much flow on the faint chance that it will result in increased rainfall in their own area, I would respectfully suggest that you might well have better luck in Las Vegas.

Friends of the Valley, a Saskatchewan-based organization, contends that a series of small dams similar to the one in Souris would be much more efficient water conservation projects and would have significantly fewer negative impacts downstream. Devine's government didn't even consider such a plan. In this politician's mind, only megaprojects generate megavotes. The whole business smacks of political opportunism.

Environmentally sustainable development, according to the Bruntland Commission who coined the phrase a few years ago, is development that has been proven to meet the needs -- not the wants but the needs -- of present populations without jeopardizing the ability of future generations to meet their own needs. One important point to remember is that the burden of proof must rest with the developers. Since they are the ones who expect to gain from the project, they must prove to the rest of us that our descendants and our precious earth will not be the losers. In other words, a project is guilty until proven innocent. Our common future must be protected from people and politicians who care only about selfish and short-term benefits and ignore long-term consequences. Under the Bruntland Commission's definition, the Rafferty-Alameda dam project clearly is not environmentally sustainable because no one has satisfactorily proven that it is.

I have already talked about the environmental assessment and review process. The federal government deliberately bypassed it in granting the licence for the project to proceed, and yet it should have gone ahead while Rafferty-Alameda was in its early planning stages. This is why the licence was pulled. It should never have been granted in the first place because EARP was not followed. Too little is known about this project, and we could be in for some nasty surprises if we don't learn more before we allow it to go ahead.

I resent claims that all residents of the Souris River valley support the Rafferty-Alameda dam project and that opposition comes from outsiders who don't understand what it is like to live here. I do not and will not support the project until it is proven to be environmentally sustainable, and I am no outsider. I care deeply about Souris and about the Souris River, and I know that many others share my feelings. I will remain skeptical until Mr. Devine can show me that his ambitious plans for the Souris River will not be regretted by future generations. Thank you.

Bob Melvin
Souris, Manitoba
Wednesday, June 28th, 1989

MR. MILLARD: Thank you. Bob Melvin?

BOB MELVIN: Thank you, Mr. Chairman. Good evening ladies and gentlemen. My name is Bob Melvin, I was born and brought up in Pierson, Manitoba, in the southwest corner. I spend most of my time teaching political science in the University of Western Ontario in London, Ontario, but I get back every year for at least two months if I can, and like the previous speaker, being away doesn't mean you leave home. I like this place more now, I guess, than I ever have. I figure I'll likely live here in the end.

Being a prairie boy, I am a curious kind of guy. I have a lot of questions. I have a lot of questions that touch, I think, right to maybe the bottom of what this project is about in the larger context, and that's what, really, I think we should be concerned about, the larger context of thought in which the whole thing has a place.

My grandfather ran the ferry across the Souris River a couple of miles east of Melita in the late 1880's, and he went onto the poverty plains and homesteaded, and those people pioneered a way of living on these prairies within the natural limits of nature, semi-arid climate, and soil. They worked within the limits of limited capital and resources that they didn't have, and they made their way in a view of how to farm in this country. Those same problems they confronted confront us still and here we have, in this project proposal, a way of solving those questions.

You see, when we think about ourselves and the world, we have got problems. We ask ourselves what's a resolution, what's a solution to that, and where are we going to hunt for it, and it seems that we usually hunt in our minds in terms of what's worked, what's there, what's traditional, what's acceptable, what we can do with the matter as we usually understand it. I think at the bottom of this whole issue is the way we understand ourselves and the we understand the things we want and desire, the way we understand our relationship with the natural environment, the way we think. What's at the bottom of this project is fundamentally the way we think.

Now this project falls within a way of thinking that is traditional in these regards, and that's a view of economic growth, sometimes called unlimited economic growth. It's a view, in a nutshell, in which man, in his ways -- you see, we make up our picture of the world, we make up our ideas of what's separate from what and what isn't. The Hopi didn't separate ourselves from the world, the Sioux didn't either. We do. We separate ours from nature, we put ourselves over, above it, we alter it, and we control it, we manipulate it, we use it because we have needs and desires, and we obviously do.

But the idea of growth is that we convert things in our natural environment into stuff that we need and want and desire, and if we have unlimited needs and wants and desires, or if we are brought up that way, to think that way, the obvious logic of it is we make a tremendous burden on the environment. It's got to satisfy us. We ripple our hands out there into the world and we hold it still, in some sense, and we try to make it serve us. We don't try to abuse it, I don't think. I grew up in a farm community that didn't. But we try to hold it and we try to alter it, manipulate it, and control it. We separate ourselves from it.

Well you know all about growth. Growth gets big and it gets powerful. Big business, business governments, big multi-nationals, big markets, big uncontrollable markets, big gains in science and technology in many areas of our lives, comforts and conveniences you wouldn't imagine, space travel, all the rest of it. We live in a world where bigness dominates in a growth model that has come to affect us all. It's interrelated, it's interdependent, it's the same thing as the ecology, it's the same thing as economics, as everything. It's an interdependent world, and that model has come to dominate, a model of bigness, a model of growth.

Now there is an alternative, and it's just been mentioned, and it's mentioned in the Bruntland Commission. International body, it took three years, they reported, and their view is that the way that we have proceeded in our thinking about ourselves and the world of nature called growth has led to catastrophic implications. It's a critical time.

Growth proves to be counter-productive. The more industry you have, the more acid rain you are going to have. It's counter-productive in many ways that we all know about. Sometimes the more produced, the less price you are going to get for it. Counter-productivity and growth has led us to big cities and sprawling slums and the extraordinary burden of debt both in the third world and the United States. The United States is the biggest debt country in the world. We have got high inflation, high interest rates. We all know about debt. I am going to mention it again. Debt, taxing the economy, the environment, long ahead of time.

The view of sustainable growth is one in which man takes a fundamentally different view of himself and the environment and what it all means, and that's a view in which he doesn't separate himself from nature in quite the same way. In fact, he recognizes himself as an integral component in a whole interrelated, interdependent life system. The idea of sustainable development, or growth, means that we are going to satisfy economic needs of people, but we are not going to tax the environment in any unwarranted ways. In fact, sustainable growth suggests we are going to enhance the environment, because if we are inseparable from the environment, what we do to it we do to ourselves.

We know that a thousand-plus species of wildlife forms of various kinds disappear every year. We know about the ozone layer, we know about the greenhouse effect, we know about all that stuff. We know the facts, more or less, but we are caught, you see. We are caught in thought. It's not these guys over there, or these guys over here, or the guys over the way, or the bureaucrats in Ottawa, or any of the rest of it. It's a mode of thought in which we are all trapped, and its girded, and rounded, and held by the notions of growth right now.

Sustainable development suggests another way of thinking that we haven't begun to explore, and I think that's the challenge of this whole inquiry. We have got questions. A democracy assumes people have got questions, they look for answers, they go to the places that they can find it, and they make a decision about it, and they talk it over. And we are here tonight to talk the matter over. A different form of growth than sustainable growth, environmentally benign, enhances the environment.

The government of the day has committed Canada to a direction of sustainable growth. This project is, I think, of paramount importance, because it is the first time that a project of major concern -- and this is a major project -- has been put under the purview of the governments' notion of sustainable growth. Hard choices are going to have to be made. And if the people that wrote the report, and there are many others that are thinking that way these days, are right, it's going to mean a fundamental change in our whole way of thinking. You see, civilizations rise and fall. Arnold Toynbee showed us that years ago. We can articulate the premises of the way we live so far, and then it runs into trouble.

When my grandfather started pioneering, he was working with a set of views. Now I think that the principles of sustainable growth indicate that we have come critically close to the end of those views, because they are generating more problems than we have got resources to solve, let alone moving ahead into the future.

So I think that the conclusion to this whole thing, to me, is the following: When I look at this report carefully, and any other data and information I can get, I think first does it enhance the environment? Does it suggest that there is going to be some way in which the environment and humankind are going to live in some kind of genuine harmony in the kind of relationship in which we can support and develop and build nature? We are doing it to ourselves, because we are not separate in any important way.

MR. MILLARD: Mr. Melvin you are at the ten-minute point.

BOB MELVIN: I think the fundamental problems are the quality, and the quantity, and the birds, and the fish, and the fauna, and the flora.

I think we have got every reason to insist that this matter go forward to the second panel stage. We are not that committed, surely, to anything other than the truth of this matter. I mean we don't want to move in a direction, I don't think, that's going to be counter-productive. Thank you.

MR. MILLARD: Thank you. Ian Robson?

IAN ROBSON: Good evening, ladies and gentlemen; my name is Ian Robson. I farm near Deleau, Manitoba, and I have followed the issue of the discussion of the Rafferty-Alameda dam ever since last year.

There were a number of questions raised about the legality of the issuing of licences for the construction of the dam and I was concerned, at that point, that the system that had been established which promised that there would be adequate study, and that decisions be made on the basis of those studies, should be continued and should be done. So that I will state right off that I would agree that there needs to be an environmental assessment and any construction based on the outcome of that, or non-construction of the dam, whatever decision happens.

I am not directly affected by the river, but I know that there is a lot of farmers who have a wet spot, wet sloughs, and these sloughs inevitably get drained into the river, and that carries the runoff of phosphorus, fertilizers, and nutrients which will build to an algae build-up and an algae bloom in the reservoir. Pelican Lake in Manitoba, is an example of a similar kind of a lake which I think Rafferty might turn into or maybe, perhaps, Oak Lake. There are a number of questions still unresolved.

It's an awful lot of money, $125 million. I suppose if the people of Saskatchewan want to spend that, well that's fine, but there should be some benefits coming out of that, there should be methods which can predict the payback from that expenditure, and you are hearing, through the discussions tonight and future discussions, some of the questions regarding any payback that may arrive from the building of the dam, and it doesn't appear that the promised paybacks are there, from what's been said so far.

We are a part, as a previous speaker mentioned, we are a part of the larger world, and therefore we have to look at the general effect downstream of a project that is being carried on upstream, so it just makes sense that, you know, that we view ourselves as part of the larger world, and for that reason I thought I should make a statement here tonight, and I don't intend to take any more time. Thank you.

MR. MILLARD: Thank you, sir. Ken Emberly.

KEN EMBERLY: Mr. Chairman, ladies and gentlemen, my name is Ken Emberly. I can't tell you what a thrill it was to drive out here this afternoon on Highway 2 all the way from that strange City of Winnipeg.

I worked at St. Claude as a kid, as a farmer I worked on the farm at Portage La Prairie, I worked on a farm at Balmoral, I trained in agriculture, all my relatives are farmers, I have always thought like a farmer, and that's why I am here tonight. But I am, I guess I am a strange kind of farmer, and yet I don't think I am at all, because I think all farmers are environmentalists in their hearts. That's the trouble with them. They don't always think about making money, they have to make enough to try and make a living, although it's pretty hard nowadays.

Ken Emberly
Souris, Manitoba
Wednesday, June 28th, 1989

I just came back from a conference in Latin America. I spent 2,500 bucks of my own money to go away for a week, and we had 950 people from 82 countries in the world. We spent a week talking about something called sustainable development, agriculture, forestry, social justice, caring for people. My God, I thought I was going to be just about the only person here tonight talking about that, and I think everybody, in their own way, has been trying to say that, but especially some of these weird people that have been on lately in the meeting. I never thought I would hear sustainable development tonight.

I believe many of us have very similar concerns. The Premiers and the Prime Minister have talked a lot about, in the last year, about saving the environment from destruction because we need a place to live in for us and our children, as well as all the creatures that we need to live beside and that we need to eat. They have also talked a lot about sustainable development.

I really don't believe they know what it means, but it sounds good, so they use it a lot. I have been studying sustainable development since 1982. I have been taking part in public hearings and meetings for pretty nearly 30 years of my life, and I have been trying to study this environment racket for just about 20 years now.

What does sustainable development mean really? We have to farm the land more in harmony with the natural systems that made the great central plains of North America and Africa the greatest natural producers of grass and protein the world has ever seen, and it ran avimatically (ph) free for 100,000 years. What have we got now? We have got a farming system that's destroying the farmland, destroying the farmer, destroying the farmers' rural communities, making good money for a few corporations. I don't think that's good enough.

What about our flora system? I just came through and spent five days in Eugene, Oregon talking to professors of forestry and people working in the forests, and the Governor had to call a conference because they are going to have to shut down another half a dozen mills in the next six years because there won't be any big trees to cut. That's the system of forestry we have. We are destroying our world, our farming world and our forestry world, and what are we doing about our rivers? I went to Dr. Pierce's (ph) water hearings when he took his national hearings right across Canada in 1985, and I asked him, I said Dr. Pierce, do you have any information, because some of my scientific friends want to know, what happens when the surge of water comes racing down the river in the spring and it all goes wasted into the ocean? I said do you know anything about it? He sent me two studies from two different scientists in Halifax, and the first study I picked up and read said "we have likely reached the stage, in damming the rivers in North America, that if we dam the rivers any more and prevent the spring surges, we are likely going to find a big drop in our fisheries harvest. The spring surge of water is needed to carry fresh water 40, 50 miles out into the estuaries, and all the rivers, to mix with the salt water. That churning and mixing up is what makes the surge of food growth that makes the young fishes able to live in the estuaries.

You see, the world is connected together, and that's why we are here today. We spent a whole day in Winnipeg a year and a half ago arguing with the FEARO people. No, we weren't arguing, because believe it or not they were trusted scientists trying to help us improve the FEARO system, this dreadful system that has trapped the Alameda dam because it wasn't studied thoroughly, and we asked them "don't you know you have got to make the FEARO studies more strict and more far-reaching than you ever dreamed? If you are going to study the Souris River, you have got to start up where the river is only six inches deep and six inches wide, and run it down to Lake Winnipeg, and you have got to consider the whole river system and all the people that live there as one unit. They haven't done that. And that's all that is needed, because you people are going to get stuck if they don't".

I brought here just two little tiny papers about two studies of dams: Social and Environmental Effects of Large Dams, it first came out in 1983, reported in a 30-page article in The Ecologist, and I distribute it to briefs, public hearings across Canada for five, four years, three years. It says that almost every major dam in the world, built in the last 30 years, didn't turn out nearly as good as they had hoped or promised, and it had more bad effects than they ever dreamed of, because there they were still in the kindergarten stage. They were at about the same level of perfection as the Exxon Corporation in the Valdez experiment.

You heard about the Valdez experiment off Alaska? It's called the technology masterpiece of the oil industry. We heard them talk about it. The head of the Petroleum Association told us in Winnipeg just a month ago you should come out to Vancouver in the fall, we are going to have a big conference how to make money out of looking after the environment, we have got a new lot of technology we are going to show you how we clean up oil spills. I never got a chance to ask him about the Valdez experiment.

We haven't reached the kindergarten stage really, no matter -- and I talked for an hour and a half today to some of the finest scientists I have known, and I have known colleagues of theirs for years, and they are doing a very good job. But the process hasn't been improved sufficiently to study the whole river basin, so that in 50 years time, what? Do the projections and the papers you saw today tell you what they think is going to happen in 50 years? Did the evaluation only evaluate the one job that the Premier and his buddy want, two megaprojects in two different areas, or did it evaluate two possible really different kinds of alternatives to achieve the same goal of making the Souris River valley a better valley to live in, a safer securer valley.

I heard somebody say tonight he wants the Rafferty dam because it's going to make water. Did you know they have got a machine in the back of the Rafferty dam that makes water, and we are going to raise more cattle and have bigger cities and towns and more industries because we are going to have more water. It's not going to make more water. We hope to ration it out and stretch it a little bit, but maybe the system is going to waste 10 percent more and do 12 percent more harm than another system that we haven't even talked about yet. Maybe a whole series of small dams, maybe a series of projects to recharge the underground aquifers so that in the bad years say "no, in the good years we didn't use 100 percent of the water available in the Souris, we developed methods of recharging some of the aquifers and you have got a little bit more underground water, so that in the really bad drought years you can pump up a little bit of the underground water that you put in five years ago". But nobody is thinking about that. Everybody is thinking "well if we use 100 percent of the water for ten years in a row that's available, we will put the surplus -- oh no, there isn't any surplus if you use 100 percent of it".

So sustainable development may mean that we have to adjust our lives and sharpen up our system so that we only use 90 percent of the water available most of the time, and not just store it in the dam, because you are going to find out that that lake is turbulent, there is going to be higher mercury levels along the edge for miles. It's going to be nice and dirty. That river isn't going to be nearly as good as they think it is.

So all I am asking is that we realize that for your good, for your children's good, I think in our hearts every one of us wants this to be a better country. It's almost a paradise. It's a hell of a dry paradise, it's a hell of a dusty paradise two years out of five, but it's still paradise. But we have to make our new system a little bit more in harmony with the natural systems.

There is countries in this world that have farmed their land for 400 years and they are still farming it. They had a little valley in Portugal, and I showed -- whose our wonderful -- Pat Mooney, I loaned the book to Pat Mooney, The Story Of The Rio Alto, a little tiny valley where they farmed the valley for 400 years. The dumb peasants had terraces on the side of the mountain. Heck, we haven't even farmed our land out here 80 years, and we have destroyed 40 percent of the fertility in it. Another 40 years and we won't be able to live of the land we have in Saskatchewan and Manitoba. We have to get a better system, but it's got to be something that's gentler on the land, and that's what all these people have been talking about, sustainable development.

And so I beg of you, don't think of us as your enemies, because for God sake we are not. We love the land.

MR. MILLARD: Thank you. Eleanor Cooper?

ELEANOR COOPER: Mr. Chairman, ladies and gentlemen; when I discovered early this afternoon that only one other woman was presenting, I decided that I would join her and express some local concerns that I share with others. I am not a conservationist, I am not a scientist, I am not a farmer, but I am a resident of the Town of Souris, and I wish to speak from this perspective.

In June last year I became concerned about the strongly conflicting opinions as to the pros and cons of the Rafferty-Alameda dam project. I was most alarmed to discover that the decisions were being made to commence work on a major dam project for which no in-depth basin-wide impact study had been commissioned, a study which would embrace all the regions affected, including Manitoba. In the long term, it is indisputably in the best interests of everyone to investigate the implications of any major environmental project at the early planning stage. I believe it is reprehensible and irresponsible of federal, provincial, and local governments not to have addressed this matter before work on the project commenced. Fortunately however, even at this 13th hour, I believe we are now seeing the democratic process in operation. This is largely thanks to the work of a handful of conscientious environmentalists who have challenged the lack of democratic process and have confounded the efforts of the Saskatchewan Government, who attempted to act above the law.

The new Federal Minister for the Environment, Mr. Lucien Bouchard and his Cabinet, should be commended for producing this preliminary information book and for revoking the dams' construction permit; also Elizabeth May, who made a stand for justice and due process by resigning from her position as a chief political advisor to Mr. McMillan, the former Minister for the Environment; to Joe Dolecki and Gerry McKinnon for their tireless and selfless labour in presenting the other side to the Souris Basin Development Authority's rosy picture; and to Keith Robinson, our local conservation; and Dan Nicholson, the towns' journalist and editor of our local newspaper, The Echo, for providing us with coverage of the issues involved, and for challenging the credibility for the Saskatchewan government's political propaganda campaign.

The next step must be a credible, detailed, scientific, basin-wide impact study so that we will be in a position to be seriously asked what our attitudes are in regard to this project, and so that we can, with conscience and a sense of responsibility, respond. For I do believe that anyone who has made up their mind at this stage, unless they are informed people, and most of us are not before we are in possession of all the facts, has fallen victim to politically-based propaganda.

The issue we should be discussing here is not the pros and cons of the project, but is what the impact of this project will be on the river that flows past our door. We need facts so that we can make informed decisions as to whether or not this is in the best interests of the people of Manitoba, and in the best interests of the environment. We do not have to fight the Saskatchewan government's battles, but we must look to our own interests and address the problems that directly affect us.

The people of Souris do have legitimate concerns that need to be addressed. The river does provide our drinking water, but of much more long-term importance is the identity that this river gives this town, an identity that invites tourism, that has made it a chosen retirement town for many country folk, and which our family can identify with personally, for the attractiveness of this town, with its lovely river, certainly helped single it out when we were faced with many choices of possible places to locate.

Furthermore, the river has great potential for recreation and tourist development, as long as it does not become a mud flat, and we are not in possession of scientific evidence that would refute this possible outcome. Do guaranteed quotas of water mean anything if the Darling reservoir is dry? Will our water be polluted with mercury for the next ten to 20 years, as this report here suggests it will? If the project is reinstated and it becomes necessary for us to find another alternative municipal supply, has the Saskatchewan Government agreed to compensate us, or will this become an additional burden on the local taxpayer? Will water control lead to further pollution of the river by robbing us of the spring flushing effect as this draft suggests? This cannot be called negligible, as our Mayor has suggested. These are but a few of the questions that demand answers.

As regards the costs to the Saskatchewan Government of suspending work on this project, this should be a lesson to us all that it does not pay to disregard the democratic process.

I believe we should be highly suspect of the Rafferty-Alameda project, for the Saskatchewan government's handling of it has been underhand. It is difficult to believe the claims which one of our local newspapers, The Plain Dealer (ph), so obligingly printed for the SRBA under the title "Rafferty-Alameda, Little Effect On Us" when those same authorities are not even prepared to grant us the necessary time to conduct an environmental survey that would subject their claims to close scientific scrutiny. Glossy brochures and a visit from the Director of Operations and Planning, Mr. Hood, to launch a media campaign here may have resulted in a few people adopting a mind set about this project. However, maybe these were only people looking for reassurance and the comfort of complacency, for surely it is obvious that we should not rely on information from the people who are implementing the project. It stands to reason that the bias of vested interest would not make their claims reliable.

Furthermore, I cannot but be skeptical about the merits of a project which was embarked on with such improper haste. I am concerned about the double dealings and political maneuvering which have hung a dark shadow over the project. If hydro-electric power been the real issue, would not this project have been located on the Churchill River? So if the project is in fact ill-founded and environmentally unsafe, as SCRAP alleges, if it is designed to bring short-term political favour for a Premier who will have implemented a mega job creation scheme in his riding, then I trust that this project will be terminated. If, however, it can stand public and scientific scrutiny, let us have a dam. I think that dams are good things, and I do not oppose this project in principle, but let us be convinced by facts, not hearsay, not propaganda or party politics. We can no longer afford to ignore the long-term consequences of irresponsible actions, for the environment is our children's heritage too. Thank you.

MR. MILLARD: Thank you.

ELEANOR COOPER: And just by way of a footnote I would like to say that as an archaeologist, I must take umbrage at Mr. Young's claim that it is better to drown an Indian archaeological site rather than to have archaeologists excavate it, for archaeology has made very valuable contributions to our store of knowledge, and major sites can provide us with great insight into Indian culture and Canada's heritage.

MR. MILLARD: Gordon Powell?

GORDON POWELL: Mr. Chairman, ladies and gentlemen; where do you start? There is much that I would like to say, and not many that have too much time to listen to it.

I go back to about 1976 and remember sitting down at the flood site watching what was going on, and there was a lot of memories or a lot of old discussions that came out of it and things that were wrong, and I thought that at one time that I made a vow to myself that if I was ever in a position to speak for those people that were down there, that I would.

Gordon Powell
Souris, Manitoba
Wednesday, June 28th, 1989

In 1940 I went to my first municipal council convention with my father and I listened to a lot of brilliant people and a lot that weren't so brilliant. I heard many discussions that were at a fairly high level of thought. Had I been more brilliant, I would have been able to bring you a lot more information tonight.

But to get down to the point that I was talking about with the flood level, was that I can recall, from early on then, they were talking about conservation of land, don't drain your sloughs, and everybody thought it was a good idea openly, but immediately they went back and they plowed another drain or they dug another ditch or the Department of Highways put in another highway, and down she came, and everybody that put in a cup full amounted to a 19-foot rise in the water in a short while there, and it was far beyond or 19 feet above the normal flood level, and it was just amazing to me how much power the water has and what damage it can cause. I mean when you look back out over the basin you see an area of ten, 20,000 miles that's drained by the Souris River and by the Plumb Creek, and the amount of water, the volume that can come through there at times when it is not a drought, is just fantastic. And because of all the drains and because of the fast drainage, we don't really realize the impact and the danger it can cause, and I don't think there are too many that are really measuring that.

The Rafferty-Alameda, if they put a dam in there, it will certainly protect the people of Minot, and I think they need it, because I think they felt the effect of that last flood and Lake Darling may not have been able to hold the total, and they may have let a little bit more come down the river where they had no alternative to do but to let it go, and that may have caused some of our problems. But 19 feet was an unusual flood, and if you go back through prehistoric times or in our modern history and you check your averages of what is the possible that might happen and what is the most dangerous flood level we might reach, I think that those facts and figures will not be very reliable because of the drainage that's gone on in the last ten years even. It's coming faster, and it's coming at a more dangerous pace, and it can cause us a lot of trouble.

The second factor is that, it's been mentioned many times tonight and it's getting perhaps more boring, but it is that we drink our water there and I don't really think it's safe. It was mentioned by one of the doctors years and years ago that it wasn't fit, and in order to get the full knowledge to the people, you can sometimes cause mass hysteria and you can come sometimes to speak at a point when it is not going to do any good, but now, I think, is the time when it can do some good. I think there are enough pollutants in there that, at times, we get another flu epidemic in town and I don't really think it's flu, I think it's poison of some sort or another that's coming out of that water, whether it's the chlorine that's put into the water to try to decontaminate the bacteria that's in it, or whether it's some kind of poison that may be in the water or whatever might be causing it, but I don't think it is healthy for us to drink it.

In order to maintain any type of quality at all, we have a couple fellows down there that look after the quality of the water, they treat it, and they are on a 24-hour basis where they have to supply us with water, and they are under public pressure, because when people are without water or their water tastes, they don't come down with knives, they come down with tongues and they continually put pressure on the guy to produce better water. He wants to give good water, and he is demanded to give good water, and he doesn't know what's coming down from upstream most of the time. One time it's pig manure, another time it's sewage from Minot, another time it's the natural pollutants of fish and wildlife decomposition that's in the water all the time anyway, but I think that we should be well advised to try and go for another source of water, and if Rafferty-Alameda is upsetting the balance or affecting that balance right at the moment, it can cause us a great deal of concern.

I appreciate the time for having a chance to speak. We are not like China. I resent, a little bit, the implications of the people that the people of Saskatchewan shouldn't speak. They have driven 100 miles, they have come into foreign territory to speak directly to the people, I think they should have a right to speak, and I thank you for my right to speak. I hope I haven't bored you with my time, and I'll sit down now. Thank you.

MR. MILLARD: Thank you. That completes, ladies and gentlemen, the list of presentations this evening. We will take a break now, and then come back in about ten minutes, and if you have any questions of the Environment Canada team, you will be able to ask them at that time.

JAMES B. CLARK: Excuse me?

MR. MILLARD: Sorry?

JAMES B. CLARK: I come late. I gave the lady at the desk my brief.

MR. MILLARD: Well why don't you come forward then, sir. We will hear your brief and we will break after that.

MR. BURNS: Sorry about it. We weren't advised.

JAMES B. CLARK: Ladies and gentlemen, sorry. My name wasn't on the list, but I got here late. I had a water pump break last night at 11:00 and it took me until 2:00 this afternoon to finish it. I am James B. Clark from the area at the bottom end of this river right at the Assiniboine. I represent myself and South Cypress Municipality. I have been a councillor there for nine years, and one of my duties was to be a rep on the Souris River Water Commission.

I have lived near 40 years around there, my grandparents homesteaded down there, I have just about seen everything that the stream can show me. I watched it flood in '49, nearly washed the cement bridge out at Treesbank, and in '79, it succeeded then. It nearly washed every bridge in Manitoba. At our end it sure did anyway.

I watched it stop running sometimes. In '61 it may have stopped, but that summer I was working in Winnipeg and can't be sure that it did stop, but it was extremely low, but in '88 it did stop altogether for nearly a month, while at the same time North Dakota was dumping 22 cubic feet a second. Now if they didn't have the wisdom to put two reservoirs in there we wouldn't have anything all summer, you wouldn't have anything all the way down that stream, and everyone here tonight has spoke as though this thing run all summer. At the bottom end it didn't. We had ponds between the rapids, but we didn't have a flow at all, and I don't think that's very good for the ecology.

I am here to make sure that you are aware of the support I, as an individual, and the Council of South Cypress have for the Rafferty-Alameda project. Ladies and gentlemen, I am here to make some points that are all to the good of everyone concerned. I have only one concern with the project which I will get to in a moment.

I don't wish to go into the benefits that this project has for our fellow Canadians in Saskatchewan and the people of North Dakota, as they have been well known and have already been presented. I wish to say I don't believe Saskatchewan put a dam on a river, but on a very large ravine or coulee, as in all dry summers it stops flowing except for Estevan sewage. So what do all these armchair experts to have complain about if the dam is built and one can have a year-round flow running instead of a semi-annual spring flood? The best part might be that the sewage will no longer need to be put into the river to maintain a running river. It will be put into good use cooling the Shand power plant.

Manitoba will gain a small amount of flood protection, which was badly needed in '76. We lost the use of six bridges in the lower 50 to 60 miles of its course, of which four were totally destroyed.

Manitoba needs more flood protection, of which we ourselves will have to build dams to get, because most of this flooding that we get comes out of the loop in North Dakota and Manitoba's own sources. This thing will have very little effect on our flood control, but even an inch or two would help. Wawanesa had 29,000 cubic feet a second running under the north bridge, and that fall do you know what the flow rate was? 35, only 35 cubic feet a second at the bottom end.

As to the quality of the water, this water has to run through two very large reservoirs in North Dakota and numerous small dams along its course, along hundreds and hundreds of miles of winding channel, over thousands of tumbling rapids, if there is water to run at all, so please save some of the wasted water wherever you can.

Now my one concern is that the very dry years, like it was last year, that we have a flow at all. If the water is stored, I would like to see a larger amount allocated to Manitoba out of North Dakota in the very dry years so that the stream doesn't dry up with high evaporations. Last year 22 cubic feet a second wasn't enough to maintain a flow, so we would like to see renegotiations of this 22 -- I understood it was 22, but tonight everyone speaks of 20 cubic feet.

In closing, I would like to say Saskatchewan has done all they can to have this project done correctly, and it seems to me our armchair experts that have bright lights burning and well-heated homes with lots and lots of cheap food to grow fat on while sitting in their chairs should get to know a lot more about things before they start to become so vocal. This has cost too much to every person that it has an effect on.

And we have mentioned -- this is just a footnote -- how many of you have ever read about injecting lime into the fire of a thermal plant like the Shand plant is going to be? I was quite impressed when I went to see that thing in Saskatchewan. It's the first one, they tell me, in North America that's going to have lime put into that burning coal to reduce the sulfur content out of its stacks. The first one in all of North America, out of all the damn thermal plants that are burning coal in North America. I think they have done their homework. Thank you very much.

MR. MILLARD: Thank you. We will now take our break.

(Meeting adjourned at 10:05 p.m.)

(Meeting reconvened at 10:19 p.m.)

MR. MILLARD: Can we resume? Can we come to order, please? Now if there are questions I would ask that you use the microphone that's over here, or if you want to use the podium microphone that's fine also, and perhaps it would be desirable to identify yourself and proceed.

Are there some questions? Would someone like to start? I gather there are no questions. Yes, sir?

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Transcript of Proceedings

(Meeting commenced at 6:30 p.m., Thursday, June 29th, 1989)

(Opening remarks of Mr. Millard, Mr. Burns, and George Hood not taken or transcribed)

MR. MILLARD: We can now turn to those scheduled to make presentations this evening. I would again remind you of the ten-minute limitation, and the first presenter is John Plohman.

JOHN PLOHMAN: Thank you Mr. Burns and Mr. Millard. I will find it difficult to do this in ten minutes I believe, I am used to 40 minutes in the Legislature, but I will try my best Mr. Commissioners.

I first want to indicate my support for the work that you are doing up to this point in time, and trust that your subsequent deliberations and recommendations will stand the tests of public scrutiny in the years ahead, especially from the viewpoint of all environmental considerations. Your responsibilities are enormous in light of the magnitude of this project and the sheer numbers of individuals, groups, and communities interested and affected by this project in Saskatchewan, North Dakota, and of course Manitoba. These responsibilities become even greater in magnitude, in my opinion, when we consider what has happened with the political involvement and political I would call manipulation up to this point, with this project, at times.

We, in the New Democratic caucus of Manitoba, do not wish to stand in the way of progress if that is what we are considering. Similarly, we do not want to cause hardships to anyone who would stand to benefit from this project. We particularly do not want to hamper community needs for flood protection, such as at Minot, and we recognize the seriousness of their problem. However, we deplore some of the tactics used by proponents to railroad this project through, and we particularly demand that all interests are considered before a project of such magnitude and impact proceeds. That is why we have consistently called for full environmental assessments to be completed before any federal licence was issued. We deplore the fact that this was not done before the federal licence was issued initially, and I am here today to implore you to recommend in the strongest terms that the environmental assessment review process be carried out in detail, and in its entirety, before any licence to recommence construction is granted.

As well, we recommend that you follow the principles outlined first in a letter to Joe Clark from myself, as Minister of Natural Resources, in December of 1987, and restated in the present Manitoba Environment Minister's brief in Melita earlier this week.

As Minister of Natural Resources in September of 1987 to May of 1988, I had the responsibility to protect Manitoba's interests on this project. I was extremely concerned about the potential impacts on water quality and quantity, and I took steps to ensure, along with my department, that our interests were protected. We were particularly uneasy that Saskatchewan seemed to be intent on moving very aggressively, as we have just heard Mr. Hood explain, in our opinion with undue haste. So, following a letter that my predecessor, Mr. Hrapiuk, sent when he was Minister to Joe Clark in May of 1986, I followed with another letter to Joe Clark on December 21st of 1987, and I can provide you with a copy of this letter, but parts of it I would like to quote from. I started one of the paragraphs:

"I was very pleased with the active role that your department has played in bringing together the parties to ensure that there will be a thorough and credible analysis of the possible downstream effects of this project before the necessary federal approvals are granted. I am sure you understand the vital interest Manitoba has in any undertaking that could affect either the quality or quantity of the water in the Souris River." I also indicated, in that letter:

> "Manitoba's willingness to be co-operative and as accommodating as possible, provided that the widely-accepted principles of megaproject environmental impact assessment are applied to either prove that there will be no harmful impacts to Manitoba, or to identify mitigation measures to eliminate adverse effects. Canada is very responsibly discharging its obligations by witholding approvals for the project until Manitoba's concerns are satisfied.",

I said in that letter. And then, after referencing the speed of this, that Saskatchewan wanted to move on this project, I said:

> "However, if there is not enough time to complete a credible assessment, I trust that Canada will withhold approval until such an assessment has been completed and accepted by the parties."

Mr. Clark answered on March 1st, and I quote part of his letter:

> "I understand fully the interest Manitoba, as a downstream recipient of the waters of the Souris River, has in the project. The federal government has consistently sought to give all due weight to Manitoba's concerns in the deliberations on the federal and international aspects of the project, and will continue to do so."

He also said:

> "I am certain that the spirit of co-operation will greatly assist in ensuring that Manitoba's legitimate concerns are addressed."

I also believed that Mr. Clark's letter reflected the federal commitment to protect Manitoba's interests, and we took it as that when we received it.

On January 19th I wrote to Herb Swan, Minister of Environment for Saskatchewan, and expressed concerns, and I received a letter back from Mr. Swan, as well, on February 9th, 1988 in which he admitted Manitoba's waters may be affected, and said that efforts were being taken to assess and quantify those potential effects, and this all took place about the same time that construction began on the coffer dam, without a licence, I might add.

Also in January I took steps to put in place an interdepartmental steering committee to oversee and co-ordinate Manitoba's position on this project, and that is reflected in a memo from my Deputy Minister to a number of staff in various departments including Environment, Natural Resources, and Interprovincial Relations in which the focus was put in place.

> "As was put in place to deal with concerns for the Garrison project, we require a focus for the Rafferty-Alameda dam",

and this co-ordinating committee began their work January 25th, 1988.

On April 22nd I asked Tom McMillan to stop what, in our mind, was improper construction activity at the site because there was no licence granted. In one of the paragraphs I said, in the letter to Mr. McMillan:

> "The Honourable Tom McMillan Minister of the Environment: I would respectfully request that your department take action to stop this

> construction activity which will alter the flow of this international river until such time as the full effects of the project on water quantity and quality can be determined."

I didn't get an answer to that, because on April 26th the Manitoba election occurred, and on April 29th, still Minister, I wrote the following to a concerned citizen from Souris, because the government didn't change until May 9th:

> "Manitoba's rights to the water of the Souris River at the U.S. border are limited by the international agreement to the required flow of 20 cubic feet per second".

I went on in a number of pieces of information to her, it was to a Mrs. Eleanor Cooper of Souris who had written about this, but I said:

> "We have been assured by the Government of Canada that necessary agreements between Canada and the United States will not be approved until Manitoba's concerns have been met. The suggestion for an environmental impact study on the effects of the project on the entire Souris River basin in Saskatchewan, North Dakota, and Manitoba is a matter that I wholeheartedly endorse."

We believed, at that point in time, that the federal government had given us those assurances to protect Manitoba's interests, and we expressed that to others in correspondence that we sent subsequent to that.

So our government was very concerned about this project and had reason to believe that our concerns were being heard, yet after the election, I suggest with no one minding the store here in Manitoba, the federal licence was issued in June without the required studies being done, only one month, shortly longer than one month after the government changed hands on May 9th, 1988.

And I say this was done politically, as alleged by Elizabeth May, who had stated and made her statements very clear publically. She alledged that a deal was made with the federal government thatfor a national grasslands park in Saskatchewan, a licence was issued without the required guidelines, and without following the proper steps that were in place for environmental review by the federal Department of the Environment. We also draw that conclusion because, (I know that Mr. Bob Halliday, the Regional Director for Environment Canada in Regina, had expressed strong concerns about this project on a number of occasions. In minutes of meetings he said:Negative effects on the water quality at the Manitoba-North Dakota border will occur",) a meeting that took place, the first meeting of the U.S. and Canadian delegations on the proposed Souris River basin project. As well, a letter to Mr. Walker on July 6th, 1987 along with comments by Environment Canada on the assessment, was done by the environment department in Saskatchewan.

So there was serious concerns, and I believe that there was only one way that this licence could be issued, and that was as a result of the intervention of the Minister, as I believe happened.

I grow equally suspicious of the integrity of the initial process because of the activities of one Orlin Hanson. He's admitted to being a paid consultant from North Dakota for the SBDA and a state representntiveas well. But in all the information that I could find in the minutes of meetings, and so on, he was listed as a state representative, never as a lobbyist and consultant to the Saskatchewan Souris Basin Development Authority. Mr. Grant Devine, the Premier of Saskatchewan gave misinformation to the media that (I saw this after the licence was quashed in April of this year, in 1988, when I sat in disbelief) the former NDP Government of Manitoba had signed off on this project. That we had no concerns with this project, that we had signed off were his words. That is far from the truth.

We had never signed off, we had serious concerns, as I demonstrated in those letters, and clearly all of the information that we had put forward would indicate very serious concerns in those letters, We never would have signed off on that in any way, shape, or form and yet -- and I can demonstrate even a letter, a memo from Mr. Clark sent to myself as Minister on February 24th, 1988 in which he said:

> "Manitoba is certainly not as yet in any position to sign off on the project. It is of major concern that it is not apparent that the necessary studies have been undertaken to obtain essential water quality information and forecasts."

So we were in no position, and we never signed off, and yet that is the kind of information that the Premier of Saskatchewan was saying on CBC television in Manitoba in an interview that was held. We weren't even close to signing off.

We had a provincial minister since that time, before the Minister that is currently in that position, the Honourable Jack Penner, who openly supported the project as Manitoba's interests were being disregarded, I allege, as a result of the issuance of the licence prematurely. He even said he supports the project even if the licence was improperly issued, and he was quoted in a number of places as saying that:

> "'I think there are some individuals who are trying to use this issue to scare people into thinking that Manitoba's water supply will be damaged by the dams', he said. Penner said he supports the construction of the project regardless of the licence's legality."

So there was an inconsistency following the election, and I believe that it was not a strong will by the Government of Manitoba to object to this project, and that was one of the reasons why Manitoba's interests were disregarded for a period of time, and I am pleased, as a result of the court challenges and the process that you, Mr. Burns and Mr. Millard, are involved in at this present time, that Manitoba's interests are being considered.

MR. MILLARD: Mr. Plohman, the ten minutes have expired. How long will it take you to --

JOHN PLOHMAN: Very brief. I would say less than five minutes.

MR. MILLARD: Okay.

JOHN PLOHMAN: Thank you, Mr. Chairman, Co-chairs.

I mention these matters and the history of our involvement for a number of reasons:

One, that Manitoba was led to believe, by Joe Clark, that our interests would be protected and that full environmental assessment guidelines would be followed, and I mention it because politicians at the federal level, Mr. McMillan, Minister of the Environment at that time, and three provincial and state levels, have tried to bypass, undermine, or ignore the concerns of Manitoba. I am pleased, now, that the provincial Minister of the Environment has said that he now is in favour of a full environmental assessment in his brief, and that was clear in his brief. That is very encouraging for us, because clearly, Mr. Penner did not. And there are still confusing messages, and I say to the Commissioners here, today the communique at the Western Premiers Conference I think even adds greater weight to your deliberations: The Premiers also stressed the importance of the Government of Canada recognizing that provinces must continue to exercise primary control over environmental decision-making matters when provinces have the constitutional jurisdiction. The Premiers called on the federal government to respect that that provincial jurisdiction in the application of environmental assessment procedures in order to reduce duplication, confusion, and unnecessary regulation. I wonder if that was aimed at the assessment review on the Rafferty-Alameda project, Mr. Commissioners.

The integrity of the process, and I conclude, rests with you. I trust that you will rise to the occasion and resist any attempts to undermine the legitimate environmental review process.

Let me conclude by saying that there is no guarantee, nor is it even likely, that the huge reservoirs created will fill in even ten years or longer. I understand that, had this dam been built in 1912, it would not have filled until 1948. It may never fill. Under those circumstances, with Saskatchewan holding back 50 percent of the water at the Saskatchewan-North Dakota border, as they are entitled to under the 1959 Interim Measures, and Manitoba only receiving the minimum 20 CF's, what will be the effect on Manitoba? I point out that very seldom has this minimum been reached over the past 30 years, and how can we expect more water in Manitoba, as some of the people who are supporting from towns and villages in Manitoba, how can we expect more water with Saskatchewan holding back 50 percent instead of 15 percent up to this point? So is it this minimal flow that has so satisfied those communities who have spoken in favour of this project? Butthey may not receive more than that, the minimal flow, for many years. And I say we deserve, the people in those communities deserve, Manitobans deserve, to have answers.

You, Mr. Commissioners, can ensure that the complete answers are forthcoming. You are our last hope. Thank you.

MR. MILLARD: Thank you sir. Edward Brady?

EDWARD J. BRADY: Thank you, Mr. Chairman. I am Ted Brady from the Town of Carlyle, born and raised in Carlyle in southeast Saskatchewan. I have been a councillor for 22 years, out of that I have been Mayor for 15 years. A little bit about my background. I was on the Board of Directors of the Saskatchewan Urban Municipalities Association for 15 years, and served six years as their President. For national organization, the Federation of Canadian Muncipalities, I served eight years on the Board of Directors, and went up the ladder to the position of President there, representing all municipal governments in Canada. I do have some knowledge of Canada, and I certainly have some knowledge of southeastern Saskatchewan and southwestern Manitoba.

Now, ladies and gentlemen, on behalf of the Council and the ratepayers of the Town of Carlyle I welcome the opportunity, through the presentation of this brief, to address an issue that has been long-standing in our part of Canada, that being the importance of water management and water conservation within the Souris River basin.

Water is a fundamental requirement of any society. Its importance in rural Saskatchewan encompasses both quantity and quality aspects for a broad range of uses including household, agriculture, municipal and industrial, tourism and recreation, fish and wildlife, hydro and thermal power, as well as drainage and flood control.

Water requirements and demands in Saskatchewan are increasing, but the supply is not. Flow records show that the supply is extremely variable from year to year. Droughts occur randomly, but there is essentially no long-term change in the amount of runoff. To deal with the extreme variability of water supply, extensive development of storage facilities must take place, and ladies and gentlemen, they must take place now. At present, many farm water supplies have been exhausted due to severe drought, and water must be hauled or pumped from distant sources at significant costs in support of household and livestock consumption. This water shortage on the farms has placed an extra burden on the water supply of urban centers, and we have found that more and more farmers are hauling water from our treatment plant every day.

There are very few water-based recreation areas in southeastern Saskatchewan, and as you are aware, the only major provincial park in our area is the Moose Mountain Park with Kenosee and White Bear lakes. The water level in these two lakes has declined rapidly over the past years due mainly to the lack of proper water management.

Tourism has become a major industry in Saskatchewan as well as Canada. We, in Carlyle, realize the economic impact tourism has on a community. We also know that to promote tourism, water-based recreation is extremely important. Recreation without water is not attractive, and will not happen. The main beneficiaries of recreation development associated with the Rafferty and Alameda reservoirs are the residents and local businesses of southeastern Saskatchewan, southwestern Manitoba, and northern North Dakota.

There are many wetlands in Saskatchewan that provide excellent habitat for wildlife in good years, but become dry mud flats in drought years. Ducks Unlimited and others have developed some breeding areas with stabilized water levels to provide a wildlife habitat even in dry years. We fully understand that the proposed reservoirs are to be located in valleys that now provide habitat for many species of wildlife. We also understand the importance and need for sustainable development. The Souris Basin Development Authority's mitigation program will ensure that suitable habitat is provided for all wildlife as a result of reservoir creation.

Mr. Chairman, I am really, I guess, appalled and disappointed at the most recent turnabout by the Government of Manitoba in its request for formal hearings. Does that mean that their past position over the last few months, a commitment, was without any foundation? If so, then I suggest they are a government of disarray groping in the wilderness, and I don't believe that to be true, Mr. Chairman. I believe that they know the benefits, and I wish to quote from a bit of Hansard that I have found references to that I think is important to this case, and I quote from the Honourable Jack Penner on Thursday, November the 3rd, 1988, and I am quoting here:

> "Not only have we indicated to our federal counterparts, the federal government, that we would like the North Dakota environment impact study to be continued from Minot on down to the Manitoba border, we have also indicated that we want to retain the protection that is provided under the Act of 1909 which refers to quality of water, and we have received written assurance from the federal government that Manitoba will receive that protection. We believe that Manitoba can accrue more regulated flows of water down the Souris River if and when the Rafferty and the Alameda dams are constructed. We are negotiating on Manitoba's behalf in that regard."

And I quote again, Mr. Chairman, from Hansard Wednesday, November the 9th, the Honourable Jack Penner:

> "I want to indicate to the Honourable Members that we, the Honourable Minister of Northern Affairs, Mr. Downey (ph) and myself, yesterday were invited to Souris to meet with all the muncipalities in and along the Souris River. We were told to proceed and not to oppose the Rafferty-Alameda dam project. They, in fact, are looking forward to the construction and the finalization of the equipment on the dams, the sooner the better, and they are in fact looking forward to better flows of water down the Souris River and they think they will be better served because of it."

To go on, Mr. Chairman, to Hansard on Monday, December the 5th, and quoting from the Honourable Jack Penner:

> "We are asking for and we have negotiated constantly towards an ongoing monitoring of the water quality in the Souris River. I simply cannot understand what other assurances the Honourable Member of the Liberal party opposite wants, because we have been given all the assurances that our interests in the Rafferty-Alameda project will be maintained by the federal government."

Continuing with Mr. Penner on Monday, December 5th:

> "I will say to you that any indication that I have received so far from either the technical study that we did on the Souris River, or either the Environmental Impact Study that Saskatchewan did on their portion of the river or, for that matter, what I have seen so far of the Army Corps of Engineers' study that they have done on North Dakota, would lend me to believe that there is absolutely nothing that would indicate that the quality of water will deteriorate after the projects in Saskatchewan have been initiated. I would suspect, sir, that the dams will contribute substantially to the economy and the employment of people in Saskatchewan and enhance the possibility of farmers to survive in that drought-stricken area of that province, and I would support it for that reason."

And from Saskatchewan, I commend that Minister.

From the Premier of Manitoba, the Honourable Mr. Filmon, I would quote from Hansard on December 5th and say that:

> "What are Manitoba's interests in the project? Very simply, we want to have assurances that our quality will not in any way be diminished by the project, our quality of water that we receive downstream from North Dakota, and that our quantity of flows, not our average flows, I want the leader of the opposition to understand that there may well be an average flow in that Souris River. I want to say that is all that Manitobans can and should be expecting out of the issue. You cannot say to the Province of Saskatchewan, or somebody else, that you want something that you do not currently have".

As the previous speaker says, you are getting 15 percent now, don't let them take what they are entitled to. I have difficulty with that from my neighbour in Manitoba. Quoting from the Premier again:

> "You want to have assurances that you are not in any way damaged by the construction of that because North Dakota some time ago constructed a reservoir and dam system on the Souris River that has given us the downstream benefits of minimum flows of 20 cubic feet per second. At the present time, because of the dry year that we have been through, there would be virtually no flow in the Souris River. But thanks to that dam that is on the Souris River in North Dakota, we are getting minimums of 20 cubic feet per second. Lake Darling is a reservoir of that dam that was created in North Dakota and we are very fortunate to have that, Mr. Chairman. That is the way in which we have

> approached this issue. We think it is a sensible, rational, and sound way."

And I commend your Premier, Mr. Chairman, but I say to the Government of Manitoba it is in your interests, and our best interests, let's get the dam built.

Mr. Chairman, I am also Chairman of the New Careers Corporation of Saskatchewan, and I have two briefs for you but I had to cut them short, so I'll just put a few highlights out of this and then I will be done.

MR. MILLARD: I wonder, Mr. Mayor, do you think you could file that, because you have used the ten minutes?

EDWARD J. BRADY: Well I appreciate the ten minutes, Mr. Chairman, but in fairness, the gentleman before me was allowed 15. You have changed the rules of the game, and I suggest to you that equal time should be reasonable.

MR. MILLARD: Fine.

EDWARD J. BRADY: I am not criticizing you, sir, you have set the rules.

MR. MILLARD: Fine, sir. Please keep it to that.

EDWARD J. BRADY: I'll do my very best. Much has been written and spoken regarding the environmental impacts of the Rafferty project. I want to speak to the human impacts of this project, and the unique relationship that exists between the two.

The Souris Basin Development Authority has requested New Careers Corporation to participate in the development of recreational facilities along the reservoir and in the mitigation of some of the environmental impacts of the project, such as creation of wildlife habitat, tree planting, etcetera. The establishment of a New Careers project will result in up to 200 social assistance recipients getting an opportunity to work, Mr. Chairman, that they would not otherwise have had, and based on New Careers' success rate, two-thirds of those 200 will obtain permanent work after leaving the corporation. The Rafferty project represents a tremendous employment and training opportunity for New Careers. I am trying to shorten it up here, Mr. Chairman. An evaluation of trainees that have left our corporation up to August 1988 showed that over two-thirds of those employees received full-time employment. Now we think that that can be repeated on Rafferty, and we hope that at not too distant future we can proceed with that.

New Careers has built a reputation of doing quality work, and we intend to carry this reputation forward to the Rafferty project. The plans that Souris Basin Development Authority have for wildlife habitat will not only replace habitat lost, but enhance it many times, and I believe that is an important issue for you gentlemen. Doctor Mainprize Park will not only be replaced, but expanded and enlarged to serve as a tourist destination site as well as a regional park. The project provides the opportunity for many people to participate, most of them local, who would otherwise not get the chance. Who better to construct wildlife habitat and replace recreational facilities than the people who have lived there and will likely continue to enjoy the benefits of the Rafferty project? We have no other options for projects in the southeast corner of the province. As I said, there will be 200 individuals will get off welfare as a result of this project, and environmental impacts will be resolved.

Mr. Chairman, the corporation is ready to start, the trainees are eager to work, we need the dam in Saskatchewan, North Dakota, and Manitoba. We ask for your sincere consideration in approving and recommending to the federal government that it be built immediately. Thank you, Mr. Chairman.

MR. MILLARD: Thank you, sir.

SPECTATOR: Mr. Chairman, point of order?

MR. MILLARD: Yes sir?

SPECTATOR: Just so no one else can use the "he did it, I want to do it", let's see all presentations stuck to ten minutes. At ten minutes, just give the word, and they have to stop. I have got other things to do, I don't want to be sitting here all night. The rule is ten minutes, stick to it.

MR. MILLARD: We will certainly do our very best.

SPECTATOR: I appreciate it.

MR. MILLARD: Ross Martin?

ROSS MARTIN: Thank you, Mr. Chairperson. As a City of Brandon Alderman, I certainly would like to welcome the large number of out-of-town visitors, and I hope that you enjoy your stay, I hope that you don't get your way. I am not here representing the City of Brandon, Mr. Chairperson. Mr. Chairperson, my name is Ross Martin, and I am representing the 5,000-member Brandon and District Labour Council.

On reviewing the Initial Environmental Evaluation, it appears that to date Manitobans were left out of the assessment process. The impact of the Rafferty-Alameda project on our water quality, on our birds, our aquatic life, our fauna, our flora in Manitoba were all ignored.

In fact, when you review the IEE, you have to wonder whether or not Saskatchewan and North Dakota will receive any significant benefits above and beyond the damage that this project will cause. It appears that the Rafferty-Alameda project was based on crass politics rather than practical sense, which the Brandon and District Labour Council strongly objects to.

The IEE deals with the adverse effects and advantages in Saskatchewan and North Dakota, and we will allow their citizens to object or try to support the project. We wish to address our concerns to the Manitoba section.

The International River Improvements Act, the IRIA, assures that improvements on the river will serve the long-term interests of Canada. We submit that the long-term interests of Manitoba will not be served. In addition, the environmental assessment and review process, the EARP guidelines, insist that consideration be given to the protection of the interests of downstream users, protection of migratory birds and their habitat, protection of fish and fish habitat, protection of rare and endangered species and their habitat, and others, none of which, we submit, have been seriously considered in Manitoba.

Consider that in periods of severe drought, North Dakota is not obligated to pass the .566 cubic meters per second of water on to Manitoba, which is less than what we receive now, and it can pass a lower flow. To quote, and this is a quote out of the IEE:

> "It seems likely that declarations of severe drought conditions would occur more frequently in the future." To quote, also from the same document: "According to predictions, water shortages would occur in 75 to 90 years out of 100 after construction of the project."

What kind of benefit is this for Manitoba? No water with the project, versus low water without it. The frequency of very low flow or no flow would increase, and the quality would be impaired. Some benefit.

I am certainly surprised and I am certainly shocked by some of the people from Manitoba that have issued support for this project. I think it's extremely near-sighted.

According to the IEE, the frequency of fish kills will increase, and the Manitoba reaches of the Souris River would experience bacteriological pollution during spring and fall waterfowl migration periods. To quote again from the IEE:

> "Overall, the effect of the project is expected to be a net loss of productive fish habitat in Manitoba.",

end of quote, which is contrary to the Department of Fisheries and Oceans' policy of no net loss of habitat or productivity.

If you seriously consider the following points appearing in this document on water quality, it states that more definitive information is required, the fish and fish habit it says insufficient information exists, rare and endangered species it says the impacts are unknown, mitigation actions have not been identified, precise baseline data is not available.

Then you can only come to the conclusion that much, much more study is required before this project can proceed.

Mr. Chairperson, the Brandon and District Labour Council requests that Environment Canada recommends to Mr. Bouchard that he refer the Rafferty-Alameda proposal to an independent environmental assessment panel, as per the federal environmental assessment and review process guidelines, for a comprehensive, scientifically credible analysis, and full public review with public hearings, of its potential impacts on the natural, social, and economic environment of the Souris Basin in Saskatchewan, North Dakota, and Manitoba. Thank you, Mr. Chairperson.

MR. MILLARD: Thank you, sir. Zak Gross?

ZAK GROSS: Good evening. Thank you Mr. Chairperson. My name is Zak Gross, and I am the co-ordinator of the Marquis Project, which is a non-profit educational resource center serving rural Manitoba. We supply schools, churches, community and farm groups with information on a variety of issues and concerns including agriculture and the environment.

More than a year ago our Board of Directors, which is elected from our 500 members in rural Manitoba and a few in Saskatchewan, passed a resolution against the building of the Rafferty-Alameda dam project as this project currently stands.

I think it's a fallacy to say that there are two groups, one for the project and one which wants to kill it. If there are two groups, one appears to want the project to proceed at any cost while the other, of which I am one representative, wants the best possible Rafferty-Alameda project, best economically and best environmentally, to proceed. For this to happen, my organization believes that further study, and independent study, is necessary.

A letter to the Brandon Sun from one person in Saskatchewan recently stated that broad independent environmental assessments were never needed before on any water project, so why now? Well I think times have changed.

The Manitoba Government has strongly endorsed the concept of sustainable development, that is economic development which does not hurt our future generations which willfollow us. It is economic development that takes water, soil, air, and people into consideration. We strongly congratulate Mr. Glen Cummings, our Minister of the Environment, for his and the province's stand in Melita the other evening. All three political parties in this province are now calling for further study. The Western Premiers met earlier this week and also endorsed the idea of sustainable development, led by our own Premier, Garry Filmon.

For us, as Manitobans, there are many unanswered questions about the Rafferty-Alameda project. The water that flows from the Rafferty-Alameda project inevitably winds its way into our province. What impact will this have on our province's southwest corner? The Initial Environmental Evaluation that came out on May 31st by Environment Canada, tells us the following; and just three points, these are all related to Manitoba.

In Manitoba, the project would result in the loss or alteration of productive fish habitat.

The project would have significant adverse effects on the ferruginous hawk, a threatened species and five plant species of national significance through inundation by the Saskatchewan reservoirs or altered downstream flows through to Manitoba.

Thirdly, that increased frequency of low-flow conditions would periodically have an adverse effect on water quality that is free ammonia at the North Dakota-Manitoba boundary.

This IEE study also tells us that information on project impacts in Manitoba are deficient in the following areas, and I am just mentioning a few of many.

There is a deficient amount of information or research on impact on water quality at the North Dakota-Manitoba boundary; impact of low flow and reduced water quality on fish habitat in the Souris River in Manitoba; impact and inundation by Rafferty and Alameda on rare plant species in Manitoba; confusion due to the use of non-comparable and outdated databases in studying the impact of the project on the Souris River basin hydrology; there are no international water quality objectives against which impacts on trans-boundary water quality can be assessed; the cumulative impact of the project through Saskatchewan and North Dakota into the Souris River in Manitoba has not been considered; there are no comprehensive plans for dealing with and paying for remedial action in areas where this project damages waterfowl, fish stocks, and other parts of the ecosystem; and finally, there is insufficient data on fish habitat in the Souris River in Manitoba. Ultimately, then, there would seem to be a great demal of work yet to be done, from a Manitoban's point of view, to ensure that the people and environment of our province are not harmed by this project, and that Rafferty-Alameda is a sound water management initiative. We therefore, along with many others, call for an independent full review of this project. Thank you.

MR. MILLARD: Thank you. Kim McBride?

KIM McBRIDE: Mr. Millard, Mr. Burns, fellow presenters, ladies and gentlemen; I would like to thank you, first of all, for allowing me to present a little bit early this evening, because I do have to go to work a little bit later on. My name is Dr. Kim McBride. I am a physician in family medicine here in Brandon, specifically in emergency medicine at Brandon General Hospital. However, that is not how I am here for you tonight. I am also Regional Director of the Saskatchewan Natural History Society, an organization that is sponsoring habitat conservation across the prairies. We have members that stretch from Lethbridge all the way to Winnipeg. We have some concerns about Rafferty-Alameda project, many of which are in Saskatchewan, but I would like to highlight some of the points in Manitoba.

As I understand it, the intent of the Rafferty-Alameda project was to diversify the economy in southeastern Saskatchewan for water resources, agriculture, industrial, and recreational use. As a spinoff, Manitoba could benefit in the following ways; through flood protection, mostly rural but also in urban areas; improved water quality both for urban use, rural use, aesthetics of the river for recreation use. But these benefits must be weighed against the disadvantages.

Kim McBride
Brandon, Manitoba
Thursday, June 29th, 1989

The following disadvantages have shown up, both through environmental assessment, and also through personal interviews of people I have talked to. These include water quality and quantity in the Souris; impact on fisheries; impact on plants and impact on rare plants and animals.

That we understand a little bit more about the project in the Souris, we have to talk a little bit about the Souris River valley. It's a very unique valley in terms of being a nice ecosystem. It's very dynamic and it has very high flows occurring in the spring, tapering off to almost no flows during the summertime. This supports a very interesting and diverse habitat. Fish, such as northern pike and perch, go to flooded areas during the spring to spawn, during the later summer, as things start to dry up, they go downstream. During the early part of the year, in spring when there is scouring of the river and deposition of silt, this creates a neat environment for some annual plants that later come in during the summertime there.

Specifically, here are some of the things I have brought out about water quality and quantity. The dam filling has not been fully specified as to when this will occur. There are many different ways of looking at it. One estimate is that 50 percent of the dam will be filled in roughly 12 years. However, the flow during this time could be very severe on Manitoba with very little or no flow. Now this was mentioned by previous speakers. The drought years can be called for in North Dakota, leading to very little water coming through in Manitoba.

The quality of the water that comes through from North Dakota into Manitoba could possibly be lower in oxygen content and definitely higher in certain nutrients such as ammonia, nitrogen, and phosphorus, and these will have impacts on fish. Low oxygen content is very poor in the river right now, but with increased effects in the next phase, should the dam go through, it could be even worse. Increase in nutrients, particularly ammonia, could have horrendous effects on the fish, particularly in terms of breeding grounds for algae. There have been recent algael blooms on the river already, which has led to many fish kills during the summertime. With decreased oxygen and a decreased flow of water during the wintertime, there will be an increase in the winter kill of the fish on the Souris.

Other potential problems result from lack of information on the fisheries in the Souris in Manitoba. There is not adequate information on what type of problems will come up in the Souris or the Rafferty-Alameda project.

Turning now to plants, as was mentioned before, it's a rather unique habitat, that in order to require this habitat to maintain we must have spring flooding along with drier areas during the summertime so the unique plants along the river valley can inhabit the silt. Some of the rare plants could possibly be affected in Manitoba. This includes Buffalo grass, Whorled milkweed, Heavy-fruited sedge among others. Unfortunately, this area is not terribly well studied. There has been no good botanical surveys of the Souris River valley basin. Most of the information is taken from Saskatchewan, or from literature reviews and hypothetical plant species being in the Souris valley by comparison to other rivers in the prairies.

In closing, I would like to talk a little bit about the effects in Saskatchewan. There is going to be a large impact by the Rafferty-Alameda project in Saskatchewan, primarily in terms of waterfowl, with a large loss of habitat. Although there are mitigation procedures being laid down, saying land has been bought and some effects will be mitigated by planting of trees, and so on, are not definite plans. This also goes contrary to many projects that are already in place between Canada and the United States. The North American Wildlife Protection, for instance, which is asking for increase in waterfowl habitat rather than decrease.

There is also going to be disturbed habitat for several endangered species in Saskatchewan, particularly something called a ferruginous hawk, a special soaring hawk, and a rather rare sparrow called Baird's sparrow. The information also on Baird's sparrow is as yet limited.

In summary, we have a project that could benefit Saskatchewan and Manitoba in many different ways in terms of flood protection, irrigation, recreational use. Unfortunately, the project has gone ahead without full environmental review involving some of the problems I have mentioned here in Manitoba. The Saskatchewan Natural History Society, on my behalf, would like to ask for a full environmental review of the Rafferty-Alameda project in an independent, scientific manner. Thank you for your consideration.

MR. MILLARD: Thank you sir. Neil Drader?

NEIL DRADER: Mr. Chairperson, thank you, ladies and gentlemen; My name is Neil Drader and I am from Estevan, Saskatchewan. The call for more study by certain people and groups of late must be responded to. We are all here tonight actually taking part in a review, in an assessment, and yet we have people that will not even wait for the results of the federal review. What does that say? Does that say that those same people, no matter what the review ends with, those same people that called for a federal review, those same people that asked for it now are saying "we will want another one anyhow". To me, that does not make sense.

We all know why the federal department is doing this study. It's because the Federal Court has ruled that it must do so. This review is to identify and to assess the impacts in regards to the Rafferty and Alameda projects in respect to areas of federal responsibility, and these areas are:

- international waters;
- migratory birds;
- fish and fish habitat;
- rare and endangered species;
- navigable waters;
- and federal lands.

When final evaluation of all these areas of concern are addressed -- and of course they are important to everyone, they are important to the people in Saskatchewan, North Dakota, Manitoba -- when these concerns are addressed, you will have your answer, because that is the federal body, the body that you have asked to do a study will have to address all concerns, the concerns of the downstream users, that's you people in Manitoba. So they will address these concerns the same as what they have addressed the federal lands that are involved in Saskatchewan, the fact that all these lands will be mitigated.

Why not take some time and let's see what this study says? To call again for a study before a study that is incomplete is absolutely, I would say, calling down on what the federal part has to do. Any call to duplicate the assessment which is going on would be both a waste of taxpayer's money, and an unnecessary delay in the decision-making process.

Now in respect to the IEE, the Initial Environmental Evaluation, trans-boundary waters. That is water quality, wateravailability, etcetera. Now let us look at the year, 1988, and I ask the people within the ment Department, the people within the FisheriesDepartment, last year, 1988 was a drought. How much water came down your river, what is the water quality of that river today, and where are the complaints coming out of that, and if there were complaints and people really worried about water quality, then they would be demanding that this Government of Manitoba, and the Government of Saskatchewan, and the Government of North Dakota work to try to correct the problem that we already have. But stopping the dam today will not change the water quality that we have in the river. That will not change it at all. It will continue to be that way as long as we have drought years. Once these dams are in place and operating -- and I am talking about operating, you have to operate a dam, you don't just block the water, you have to operate it -- and with the proper operation we will never see the Souris River in a situation like we see it today because water will be able to be released. This is a positive impact.

Migratory birds? Ask anyone how many birds, waterfowl, have you seen in the Souris River basin in 1988? The answer will be very few. The reason why is because the Souris basin watershed was experiencing a drought. No water, no waterfowl. It's very simple. When the wet years return, the waterfowl will return. Saving water in our wet years, through the use of dams, only makes sense. It will enhance waterfowl, a positive impact.

Fish and fish habitat. In 1988, again, virtually all areas of the Souris basin suffered extreme fish kills. It's very simple. Fish need water. No water, no fish. Again, once the dams are in place and operating, the Souris River shall never exist in such poor condition as it is today, a positive impact in respect to fisheries.

Rare and endangered species. There is not one species of anything that will become extinct by this project. We may have less of, of course, there has to be less of. How much less of, that's what's important. I believe that all reasonable people would agree that we should be able to flood some plants to benefit humans and other species. Less of. That's a negative impact, some people would say, but do you know what I say? I say that a negative person would call it a negative impact. I am a positive person. You see, by being positive, it makes things go by a lot better, and you are not going to change anything. Being negative, you look at negative things.

Navigable waters. Any change to the existing behavior of the Souris River will enhance navigation. Positive impact. How much navigation, right now, could you do in the Souris River? For instance if I approached the federal government and said "listen, I want some mitigation, I enjoyed canoeing down the Souris River in a flood year, these dams will now stop flooding, I want to have proper mitigation because I can't do it any more", this is about how ridiculous some of these things are. The proponent of these projects have gone out of their way to mitigate, within reason, all possible negative things that will come out of it, and by the way they are very, very small. They are no more negative things than what we were experiencing last year and today.

Ladies and gentlemen, this project must proceed, and must proceed immediately. There are just too many positive benefits just going down the drain, or should I say just going down the Souris River. Thank you.

MR. MILLARD: Thank you, sir. Joe Dolecki?

JOE DOLECKI: My name is Joe Dolecki, and I am an Assistant Professor of Economics at the Brandon University, not the University of Brandon as listed on the program. The University of Brandon does not exist.

I have been following developments in relation to the Rafferty-Alameda project proposal for the past two years, and during this time I have made presentations before and submissions to numerous bodies on this matter, including the Saskatchewan Board of Inquiry, the United States Army Corps of Engineers, and the Environmental Protection Agency, the Governments of Manitoba and of North Dakota, the Canadian Senate, the Royal Canadian Mounted Police, and of course, the Federal Court of Canada.

Included in the package of material which I will leave with you after my remarks are finished are copies of most of these submissions which I would like to have included in the official public record for these proceedings. As well, I will be forwarding to you, before the 10th of July, an extensive submission from which my remarks this evening are drawn.

Joe Dolecki
Brandon, Manitoba
Thursday, June 29th, 1989

I appreciate the opportunity to participate in this process and will confine my remarks to, as per your ground rules, to matters arising out of the draft Initial Environmental Evaluation document. However, before proceeding to that discussion, I would like to discuss two matters referred to by Mr. Hood in his remarks.

The first has to do with the question of Saskatchewan's apportionment rights under the 1959 Interim Measures. Saskatchewan, as you know, has been claiming an absolute legal entitlement to 50 percent of the natural flow of the Souris River as per the 1959 measures. I would advise you, Mr. Chairman, that such an absolute right does not exist in either fact or law. Rather, what exists is a conditional right.

The reasoning behind this statement is straightforward. The 1959 Interim Measures derives its authority from, but does not supercede, the authority of the provisions of the Boundary Waters Treaty of 1909. As such, the 50 percent entitlement claim of Saskatchewan is conditioned by the obligations set forth in the Boundary Waters Treaty, specifically Article IV, the water quality article. The meaning of this is clearly and unambiguously stated in the October 1988 report of Manitoba Natural Resources where, at page 24 I think it is, it is written:

> "...no jurisdiction can exercise its apportionment rights at the expense of another jurisdiction's water quality."

In drawing your attention to this point, I would simply add that we have been advised that this rendering of the matter is not only logically correct, but enforceable by means of litigation.

The second matter has to do with the question of the Rafferty-Alameda proposal and the concept of water management.

It seems clear that for the last several years, the project sponsors have tried to instill in the minds of the public at large the false notion that the Rafferty-Alameda represents a quintessential example of water management in the Souris basin. The object of this exercise is quite transparent. It structures a situation in which, if one opposes or raises concerns about or objections to this specific project, one is identified as being against water management as such. This, of course, is an example of sophistry of the most vulgar kind.

Moreover, I would draw your attention to the fact that this equation to the Rafferty-Alameda project proposal and water management does not appear to be endorsed by either the Saskatchewan Water Corporation, the licence applicant, or Environment Canada.

Thus, in a letter dated July 20, 1987 addressed to Mr. Hood, a Mr. R.L. Kellow, Chief of the Planning Branch of Saskatchewan Water Corporation writes the following when he comments on the last draft of the Environmental Impact Statement prepared by the basin development authority. This quotation is, quote:

> "The suggestion that the project as currently envisioned constitutes a 'comprehensive water management plan' for the basin is misleading, at least in the context that we, as water managers, would judge such a plan."

Environment Canada's feeling on this question is revealed, I believe, by the following statement in the draft IEE under the heading of Significant Deficiencies in information where they note, quote:

> "A water management plan should be developed which would include Saskatchewan's operations of the project and the operation of the

National Wildlife Refuges in North Dakota.*,

Clearly, for Environment Canada reviewers, no such water management plan could be identified within the context of the Rafferty-Alameda project proposal.

This being said, I would like to turn to a discussion of the draft IEE itself, and in the time that I have remaining I would be offering, in the spirit of constructive criticism, the following five observations for your consideration:

1) In my view, proper scoping procedures were not followed in the design of the IEE.

As you know, scoping is a process that is used to determine the important issues and alternatives that should be examined in environmental assessment, and improper scoping, as I am sure you are aware, is crucial to the success of the assessment exercise because it helps to ensure that important issues are not overlooked or ignored and it helps reduce the conflict which may emerge in connection with these issues, and things are not ignored. There is, as you know, a publication put out by the FEARO office that described the standard five-stage scoping process that is to be used in the preparation of initial assessments, and one of the things in this process is public input, which is deemed to be essential, and it features this public input prominently in at least two of its stages.

Regrettably, in constructing the IEE before us, this scoping process was not followed. Instead, the scope of the IEE was determined more or less in house by Environment Canada to the exclusion of the public and other interested agencies. To be fair, though, I must mention that public input into the scoping was in fact solicited by Environment Canada. However, this was done two days after the IEE went to the printer. Moreover, to my knowledge, two things were excluded from the process all together: That was the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service. Notwithstanding the lateness of the hour in this matter, so to speak, I would strongly urge that you contact these agencies, send a copy of the draft IEE and the summary to them so that they may review these documents and make comments upon them.

Anyways, to reiterate, the scope of this IEE was not done with reference to the FEARO guide but rather, it seems, it was made reference to something else, namely the Reasons for Judgment which were rendered by Justice Cullen on April 10th. I would merely observe that this is singularly inappropriate, and in fact it finds sort of dubious legal support. The fact of the matter is that the court of Canada ordered that Environment Canada apply the EARP guidelines, not the reasons for judgment.

2) As a result of not following this process, the IEE is mis-scoped.

In my view, by following the Reasons for Judgement, the Environment Canada defined its task in relation to this assessment too narrowly. Many issues of considerable importance to the assessment of the Rafferty-Alameda project proposal were not examined in the Initial Environmental Evaluation. The one glaring example of this involves consideration of a socio-economic impact of the proposal on each affected jurisdiction, an issue which is of considerable importance given the requirement of the IRIA that projects licensed under that Act must be economically sound.

Other areas that I would point out to you that should have been covered is the international agreement recently initialled, in quotation marks, between the respective jurisdictions, and also, I would suggest that the Shand power plant also should be examined in this kind of context.

3) The draft IEE contains an inadequate description of what the project is, the project that is actually proposed.

Clearly, the project description that has changed significantly since 1988 when the licence was applied for. These changes have been identified elsewhere and need not detain us here, except I would note that the ground water pumping issue is of central importance and this, as the IEE notes, is something that ought to be clarified immediately by project sponsors.

4) The draft IEE falsely assumes that the environmental assessment work done by the project proponents is scientifically credible.

To make the point one need only refer to the benefit:cost analysis conducted by the Basin Development Authority in which there are elementary errors in method and calculation. In fact, if you submit that document to any competent economist in Treasury Board, they will confirm that, and they will also confirm that the project proposal promises net economic losses in each affected jurisdiction.

One could also cite, as another example, just to compare the April 1989 study done by Vern Harms on rare and endangered plants in the region with that produced by the Souris Basin Development Authority, or one could reference the water quality analysis done by the Souris Basin Development Authority, whose credibility is described by the United States Army Corps of Engineers as being, quote, "limited" for a variety of reasons.

But I would like to draw your attention to an additional piece of evidence which, for me anyways, is more disturbing, and it relates to a couple of areas that you have identified as being within the federal interest. The matter comes about as a result of the looking at a memorandum dated April 21, 1986. It's written by D.L. MacLeod, Vice-President, Resource Management, Saskatchewan Water Corporation, and it talks about meetings between project sponsors on both sides of the border, and I just want to read a couple things off this. He says:

> "Comments on these notes...",

minutes as it were:

> "...are contained in the margin of the attached copy. Because of the importance of this matter, I believe we should ensure the record is as correct as possible."

Anyways at page, and Mr. Hood will remember this meeting, at page 2 of this article or this write-up, they talk about the environmental reports and the process necessary to get them through the system, and there is two comments that I would like to reference, a statement:

> "The impact of the project on migratory birds does not appear to be a major issue from our point of view."

The Saskatchewan point of view.

> "The United States will have to let us know if there are any problems."

And in the note there is a marginal note in the hand, I believe, of Mr. MacLeod which says, quote:

> "The U.S. Corps of Engineers indicated that the potential impact on migratory birds could be an issue in the U.S. It would therefore be useful if the EIS could indicate little or no impact."

Need I add wink, wink, nudge, nudge. At page 3 there is a discussion of the question of return flows from irrigation with respect to the water quality modeling that is done. It says, quote:

> "A..."...potential..."...major concern is the quality of return flow from irrigation. The issue could impact the United States Corps of Engineers' ability to get funding at the federal level...",

for this project. There is a marginal note, and the aside, again in the same hand, quote:

> "The U.S. representatives noted that it would be helpful if the EIS indicated no changes in water quality were expected from return flows",

wink, wink, nudge nudge.

5) The draft IEE contains, in my opinion, proposals considered under the heading of mitigation which range from the sublime to the fanciful to the ludicrous.

For example, there is a discussion of, for mitigation of water quality problems at the international border, there is a discussion of the importance of the establishment of water quality objectives. I would remind Environment Canada that there is a difference between water quality objectives and water quality standards. One is not enforceable, the other is, and that under the terms of the international agreement that has been initialled and has been referenced here before, there is no enforcement mechanism for the achievement of water quality objectives.

MR. MILLARD: Mr. Dolecki, we are running into time problems.

JOE DOLECKI: I just have one more, two more references, if I may. Secondly, there is this question of the full mitigation of fisheries losses which is predicated on the development of a sustainable fishery behind the Rafferty reservoir, and as you note, that is highly unlikely given the hydrology.

I would conclude with one more observation, and that is that it is clear, notwithstanding the limitations of the IEE, it does provide more than sufficient grounds to move us to the second stage of the environmental assessment and review process, and therefore I urge you, in the strongest terms imaginable, that you recommend to Mr. Bouchard that the matter be referred to an independent panel for a complete and credible basin-wide impact assessment. I mean we have an opportunity, perhaps a unique opportunity, to do something right with this project, and we ought not to squander it. Thank you.

MR. MILLARD: Thank you, sir. We will take a ten-minute break.

(Meeting adjourned at 8:11 p.m.)

(Meeting reconvened at 8:29 p.m.)

MR. MILLARD: Can we come to order, ladies and gentlemen, please? George Stevens?

GEORGE STEVENS: Mr. Chairman, other member of the commission today, and ladies and gentlemen; my name is George Stevens, I am the Reeve of the R.M. of Moose Creek number 33. Our office is in Alameda, Saskatchewan. Anyone wishing any more information can phone 306-489-2044.

Like Mr. Brady from Carlyle expressed earlier on, I have also served considerable years on R.M. Council as a Councillor and a Reeve. I am serving my 28th year, so I assure you, ladies and gentlemen, I know the Moose Creek extremely well, because it goes right down through the center of our municipality. I know a fair bit about the Souris River which enters North Dakota and comes back up into Manitoba.

George Stevens
Brandon, Manitoba
Thursday, June 29th, 1989

I have seen flood years and I have seen dry years and believe me, ladies and gentlemen, we have just gone through one of the driest I have ever seen. Water has been hauled considerable distances and wells drilled.

The R.M. of Moose Creek is directly affected by the Alameda dam and reservoir. For that reason, we have taken a long, hard look at proposals put forward by the Authority. The process through which we have arrived at our decision to support Rafferty-Alameda has been painstakingly thorough. We take our responsibilities as municipal government very seriously. Since 1987 we have worked with the Authority to ensure that local concerns regarding the project would be fully and satisfactorily resolved. We are confident, now, that we can support the project and look forward to the many benefits that it will yield.

The potential for strengthening and expanding local businesses is assessed as very strong, and we need economic growth to assure the vitality of our communities. Tourism and recreation development will bring more people and increased spending in the area. We also look forward to attracting younger residents who are willing to make their homes here. The health of our school systems and municipal services depends on a strong population distribution. Economic growth resulting from the project will attract people and provide confidence in the future here.

The federal government, in fulfilling its responsibility for environmental protection, must do so in a fashion consistent with its obligations to redress the economic disparity and to encourage regional development.

We are fully satisfied with the projects' commitments to compensation and mitigation. We hope that you will recognize the strength of the project and allow it to proceed. Thank you gentlemen.

MR. MILLARD: Thank you sir. Ruth Pryzner? I probably mispronounced that?

RUTH PRYZNER: Yeah, you did. I am not wearing stripes. It's Pryzner.

MR. MILLARD: After it came out, I realized it had some connotations.

RUTH PRYZNER: Well, my name is Ruth Pryzner and I am from the community of Shoal Lake, Manitoba where I have grown up on a farm, and I continue to participate in farming activities.

My concern about the environment and water projects arises in part out of my agricultural experience, and as well, my participation in the anti-Garrison lobby effort in the early 1980's where, as a representative of the Brandon University Students Union, I travelled to Washington, D.C. to lobby the U.S. Senate to halt further construction of the Garrison Diversion project. It was through this lobby effort that I became acutely conscious of the severity of the implications of inter-basin transferrals of water on the environment and the livelihoods of people.

As most people are aware, it was the Boundary Waters Treaty which was the basis for our success in stopping the Garrison Diversion project. Familiarity with this treaty and the proposed Rafferty-Alameda project has left me with several concerns about the Rafferty-Alameda proposal.

I am concerned that, if the Rafferty-Alameda project is permitted to proceed as planned, acute shortages of water downstream from Saskatchewan will likely develop, and this will lead to needs on the part of downstream users to remedy these shortages, and as I see it, there are three possibilities: First, there is a suggestion that Saskatchewan may choose to pump ground water to help fill the Rafferty reservoir, and that's in the March 22nd issue of the Winnipeg Free Press. While this potential course of action has been denied by Saskatchewan Government ministers as an actual planned choice, it does remain as a very real possibility which has several implications, among which are a possible reduction in natural wetlands and a severe reduction in water table levels. In an area of Saskatchewan which experiences drought conditions on a frequent basis this, in my opinion, is an absolutely asinine idea to even consider. As it remains as a possibility, I think that it should thoroughly be examined.

Besides, the Saskatchewan Power Corporation is currently pumping ground water into the Souris system through the Boundary reservoir, which is reported in the Winnipeg Free Press February 18th, 1989. Admitted in the article is that "poor water quality" is being discharged without a licence, which suggests the action is being done illegally. This ought to be examined, in my opinion.

The second possible source for water that Saskatchewan could tap into to fill the reservoir and meet its obligations and alleviate these pressures is through the diversion of water from other Saskatchewan water systems. It seems ludicrous to me for anyone, or any group of people, to drain other systems to meet water requirements for the Souris River system because of artificial alterations to it in the first place.

Finally, there is the possibility of the diversion of water from the Missouri watershed to the Souris system, the Hudson Bay watershed. This is a very real threat, with implications already known through the Garrison project. If Saskatchewan cannot supply appropriate and necessary levels of water to North Dakota, then North Dakota will be forced to find alternate ways to deal with its own water needs and to meet the requirements of the Boundary Waters Treaty. It is likely that increased pressures, because of Manitoba water requirements, will lead to an American solution such as renewed interest in project proposals such as Garrison.

In fact, North Dakotans are already considering this possibility, as is reported in the Minot Daily News on May 15th, 1989. I'll just read a couple paragraphs from that, quote:

> "Work is expected to begin soon on a plan to augment the flow of the Souris River after the Rafferty and Alameda dams are in place in Saskatchewan. There are a number of alternatives which must be studied the state engineer said. He listed them as ground water from wells which could be drilled along the river's route, finding of stream storage sites in which water could be stored until needed, then pumped into the river, possible impounding of water above the border below the two dams, or acquiring a supply from the northwest area water supply program, or a massive plan designed to bring municipal water from Lake Audubon to towns and cities in the nine northwest counties including Minot."

So, again, these questions and implications, I think, must be closely examined.

Another major concern which I have about the project arises out of the advertisement placed in the June 28th issue of the Brandon Sun by the Souris International Good Water Group, and as it was pointed out earlier, the group was co-founded by State Representative Orlin Hanson, North Dakota, while employed as a consultant for the Souris Basin Development Authority. This ad contains the kind of misinformation and propaganda that has characterized the Development Authority's approach to the people in Manitoba. The ad concludes with the statement that:

> "All this means is better water management at no cost to Manitoba and its share of the waters of the Souris River under international agreement remains unaffected.",

unquote.

Ruth Pryzner
Brandon, Manitoba
Thursday, June 29th, 1989

There are several comments which I wish to make in this regard, which others of addressed here as well.

Number one, under the 1959 Interim Measures, Manitoba is allotted 6,069 acre feet of water regulated at 20 cubic feet per second during the summer, except in periods of extreme drought. In this case, Manitoba may get nothing. This 6,069 acre feet of water is only 2.5 percent of the average annual volume Manitoba has received since 1959, and that source is the October report of Manitoba Natural Resources.

In the Initial Environmental Evaluation, on page 5-23 it states that:

> "The operation of the three reservoirs in Saskatchewan and regulation in North Dakota would result in less water being delivered to Manitoba. After completion of the Project, the United States would deliver to the Manitoba boundary only sufficient water to meet the requirements of the Interim Measures. The frequency and duration of this minimum flow delivery would probably increase over pre-project conditions."

This is particularly true during the 40-plus years it will take to fill the reservoirs. This will impose damages and real economic costs to the people of southwestern Manitoba. I would suggest, therefore, that this article or the ad's statement is patently and unequivocally false.

Manitobans have the right to know what the exact nature of these impacts will be and who will bear the costs economically, and most importantly, environmentally. As the IEE indicates, most, if not all, impacts on Manitoba are yet undetermined, possibilities for impacts on fish, wildlife habitat, wetlands, rare plants, water quality, water tables in Manitoba, and impacts on agricultural activities. Again, all of these possible impacts, I think, must be comprehensibly examined.

Additionally, I am generally concerned about the destruction of soil resources in Saskatchewan, as with soil degradation everywhere, particularly with regards to the purported irrigation benefits to result from the reservoir. I am disturbed about the mismanagement of agricultural resources in the sense that it is highly suspect that it is a wise water-soil management decision to destroy high-quality grasslands as well as critical habitat, wildlife habitat, which exists at present with a reasonable level of balance for the sake of the, quote "benefit of irrigating class 2 and 3 soils".

Problems with irrigation have been documented elsewhere; increased salinity, leaching, increased short-term use of land through continuous cropping to make back the investment in irrigation equipment. These all increase the pressure on the land, impacting on its long-term viability. I maintain that this type of agriculture is not sustainable and is ultimately destructive. And that's what really galls me, you know, in terms of my concerns about the agricultural implications of the project, is that these dams and reservoirs will destroy viable farm and ranching operations which, though they are not perfect in that agriculture by its very nature can lead to environmental problems, it appears in this case to be integrated into the natural environment of the region in a way that is much less objectionable than what is being proposed to replace it with the project.

I might just add here as well that I am of the belief that if you can't grow crops without the assistance of rain and you have to irrigate, then you shouldn't be growings those kinds of crops there, you should look at other uses for that land.

So the question for me is will this project stimulate and facilitate the development of sound, environmentally benign, and sustainable agricultural practice in an era where it is becoming increasingly urgent to halt soil and water destruction and degradation? I submit that the answer is no. If we are committed to the development of systems which will enable us to continue to feed ourselves, our children, and future generations with high-quality food, then we must consider other methods of resource management. We cannot accomplish sustainable agriculture with projects such as Rafferty-Alameda, neither in the short-term, nor in the long-term.

In closing, I would just strongly urge, as many have before, the Minister of the Environment to submit this proposed project to an independent panel review under the EARP process so that these, and all the questions which have been put to you by others, can be comprehensibly and credibly examined. Thank you.

MR. MILLARD: Thank you. Charlie Hughs?

CHARLIE HUGHS: Can you hear me? Charlie Hughs. You hear noMR. MILLARD: Yes, sir.

CHARLIE HUGHS: I was brought up in South Africa where we tried to irrigate areas on what you would call a farm or a ranch with, it was oxen and mostly sheep.

But the people wanted to get food like corn, and so they then built dams, and these dams have not been a great success on most of the land that was irrigated there was no drainage back into a river or some sort of stream. All the things that came down into the ground, either (the water) evaporated and was left there. Well if you have got clean rainwater, that's all right, but once you get to taking water from a river like the Souris, which ain't quite clean, I mean that you will get deposits of chemicals in those ground that will eventually kill the soil, and it's been done in a number of places. In Africa there is, they have tried, in the North Africa they have tried to use springs for irrigation, they had towns built there, and then eventually, because of the chemicals in the water, that obviously the ground was killed and the people had to vanish.

The only area where they have irrigated lands for more than 2,000 years is next to the Nile and the Euphrates where they are close enough for the water to run back into the river, yet when they tried it in the desert, in ten years they killed the soil.

So the Rafferty dam will have a couple of other things, because they have mentioned using it for soil, but if you have stagnant water in a channel like that, the quality of the water falls very badly, because if it's in a valley, and a deep valley and fairly deep water, the bottom water ends up with no oxygen, sort of mucky, smelly stuff, and takes a lot of treatment to be able to drink it.

So in every way, it seems a disaster, because I am quite certain that if they ever got that dam full and you had two years of drought, which we very often have in our dear area, with winds, the evaporation would be more than the water that ever came into the dam, because I know, from Pelican Lake, that two dry years and the whole thing goes down like crazy. And that's much the same type of thing.

So the whole thing seems to be more or less a political mish mash that is being put on so that people will get a whole lot of jobs and vote in the same man next year, or next whenever, next date. So I think that is the only real way they think of. They give a lot of jobs to people for a while, and they will vote for me. To heck with it. I don't care about anything beyond five years or four years, whatever it is, because I am just here [illegible]ng as I can stick here.

So it really is, I think it's going to be a disaster. The evaporation on that will, as I say, will mean that if they are having a really, two dry years, they will be letting water out and losing water with evaporation. I doubt -- some people said it would take 50 years and two floods before the thing was full, and I wouldn't be surprised if they are right.

So it is a purely non-scientific idea, it's an idea of a politician who doesn't give a snoot as long as he gets the votes next year, and he doesn't even understand anything about irrigation or evaporation or what happens to the Souris. I know it all sounds, you know, not very nice, but it's the hard truth that dams and irrigation are only good in very few places.

MR. MILLARD: Thank you. Cliff Walker?

CLIFF WALKER: Good evening Mr. Chairman, good evening Mr. Burns and ladies and gentlemen; my name is Cliff Walker, and I come from Carlyle, Saskatchewan, have lived there about 45 years, farmed 20 of those years, spent ten years on Town Council, and now hold the position as President of the Redcoat Trail Association.

As a highway association, one of our objectives is to accommodate many of the tourists that travel along the southern part of the prairie provinces, and we feel that the Rafferty-Alameda projects are going to enhance our highway, so on the behalf of the Redcoat Trail, I would like to make this presentation. I am not quite as knowledgeable about this project as some of the speakers, but I'll try to keep this short, and what we, as an organization, see it.

To give you a brief resume of our organization, it was the Highway 13, it was formed in Weyburn, Saskatchewan ten years ago, and the intent was, of course, to extend our highway out to the Alberta border and the Alberta road into our road, and we did accomplish this by negotiation with the governments and after environmental study, which always seems to be the case when you start to do something, and we finally got our road through, which has made it so that we now have an alternate southern route that you can take from Manitoba, or Winnipeg, Manitoba through on number 2 highway, through 13 on in Saskatchewan, into 61 in Alberta, and on to Fort Macleod. Now with the improvement on the east-west corridor we, of course, have increased the tourist travel and many of these people, of course, are coming from the south. We, as an association, have worked very strongly with the governments to see that the accommodations were along the road, camp sites and facilities and that type of thing. We also have a brochure out to show them all the interesting things that we have in the southern part of our province. That brief resume will bring you to my brief.

Now over the last ten years that the Redcoat Association has been in existence we have seen the water in most, if not all, the lakes and sloughs and potholes, along with the ducks and the waterfowl, decline or disappear along the road that we want the people to travel. Now we don't get the runoff, as everyone knows here, we don't get the runoff from the mountains into our province, we have to depend on the good Lord for that, and of course that comes and goes, and like it was last year, why it certainly wasn't too good. The Rafferty-Alameda dam will hold this water that we so desperately need in the south, and provide the recreational area for the residents and tourists alike. We will also get the most needed flood control that is needed downstream with a well-regulated flow of water, so that the towns in Manitoba will get their share of water. It would also, and this is one of the things that we are interested in in our area, it would also supply a large body of water for the migratory birds that come through there.

Now every spring and fall there is tens of thousands of white geese come and roost there for a week or ten days, and the last two years these birds have watered at dugouts or flown back into the Moose Mountains to water. They also do quite a lot of damage by eating the spring wheat and rye, and that type of thing. Not that I don't think the farmers mind, but they are there. We feel that the Rafferty-Alameda project would give them this body of water that they need so badly.

Wildlife. The general wildlife in that area that we have seen over the last ten years has certainly depleted. The deer, the coyotes, the foxes, even rabbits, you don't see them like you used to, and it is because there isn't any water. You can't, you just cannot raise anything, it doesn't matter what it is, if you haven't got water. We all know that. I feel that I was one of the lucky ones to have lived in this area when the water was there. I farmed for 20 years and saw the wildlife flourish on the moist environment. We used to have to stop and move the ducks out of the way so that we could cultivate. Today you don't even see a duck. The flooding of the Alameda and Rafferty reservoirs will not, as previously stated, destroy ducks' nests. That's nonsense, absolute nonsense. As far as we are concerned, or I am concerned, this will enhance the duck population. That reservoir is going to fill in the early part of the year when the ducks haven't nested, they haven't even started to nest, and the ducks will just simply move up the bank and nest farther up. Now a lot of people say there is not the environment there, they just can't nest where there isn't, that's a bunch of nonsense. I have seen Mallard ducks nest in a tree in an old crow's nest. If they are there, they will nest. What they do need, after they nest and have their hatchlings, is the water.

MR. MILLARD: Mr. Walker you are getting close to the ten minutes.

CLIFF WALKER: Gosh, I didn't think so,

MR. MILLARD: It goes quickly.

CLIFF WALKER: Lake Diefenbaker and the Gardiner dam are two examples that we have to show you that this is feasible, and the last speaker here said that it wasn't feasible to irrigate. That's nonsense too, because we are doing it up there, they are doing very well, it's been going on for ten years, and I defy anybody to go up there and show me where it's bothering the land any. The alfalfa and whatever they grow on there is doing fine, I have people live up there, and I know quite well that the irrigating there is doing the job that it is intended to.

Anyway, to round up, I think the federal government has borne substantial financial burdens through the drought relief programs, but I think that building this Rafferty-Alameda project reservoir will supplement the farm income through irrigation and supplementary crops, industries, and the federal government have the responsibility for the western economy diversification. As President of the Redcoat Trail Association, and with a membership of over 200 scattered along our highway, Manitoba, Saskatchewan, and Alberta, I wish to go on record that we are in full support of the Rafferty-Alameda project and we urge you, as chairman of these hearings, and the panel, that you encourage the immediate startup of the dams. Time is essential. Now is the hour. Thank you.

MR. MILLARD: Thank you sir. John Whitaker?

JOHN WHITAKER: Thank you, gentlemen. My name is John Whitaker. We farm about 50 miles north of here. I chair the Environment Committee for the National Farmers Union, and I am making this presentation on their behalf. I have read the yellow book, this one here, and have divided my comments into three areas, the first being flooding and drainage.

One of the negative consequences of prairie agricultural development has been excessive wetland drainage. This drainage has resulted in ever-increasing peak flows in our rivers during the spring melt, and an ever-shorter duration of runoff. The water goes with a whoosh and then there is nothing else. This process has been detrimental to the water table and to farming and community ground water supplies since the water from snow melt doesn't have a chance to soak in. It has been detrimental to fishery production, since the runoff period doesn't extend long enough for fish eggs to hatch and for young fish to make their way to permanent water, and it's been detrimental to ducks and other slough life because the wetland no longer exists.

Cities like Minot are having to endure increasingly higher flood peaks while the reduction in water surface held on the landscape reduces evaporation and rainfall, and may be accelerating a shift to a drier climate.

John Whitaker
Brandon, Manitoba
Thursday, June 29th, 1989

The Rafferty and Alameda dams, while protecting Minot from flood peaks, would do nothing to correct the above-mentioned effects of drainage, and would likely provide justification for even more wetland drainage in an effort to fill the reservoirs.

An alternative approach to flood peak control would be to re-establish the landscape which existed 100 years ago by recreating large numbers of small bodies of water to hold runoff. Fill in those drainage ditches and let those sloughs fill up again.

True, we wouldn't be farming quite as many acres as we are now, and we might not be on the land as early in the spring, but other benefits would be substantial. For example, flood peaks would be reduced and the runoff period prolonged in rivers like the Souris. Water tables would recharge, community and farm ground water supplies would be more healthy, and soil moisture reserves would increase, all as a consequence of giving the runoff time to soak into the ground. Local rainfall would increase, habitat for breeding ducks and other pond life would be restored, and our agricultural development would be in harmony with natural processes, which enjoyed 10,000 years of sustainability before we Europeans arrived to start farming.

The Deer Wood Soil and Management Association near Miami, Manitoba has been using just this approach over the past few years, catching water from areas as small as a quarter section in small impoundments. Publications outlining their approach to water management are available through the Manitoba Department of Agriculture and present a water management strategy worth considering.

Second is irrigation. There is historical evidence to indicate that irrigation agriculture is not a sustainable land use since, over time, salts accumulate to the point where plant growth is impaired. The Imperial Valley in California, the source of our winter lettuce, has been irrigated for the past 50 years. Salts are accumulating in the soil, and presently 15 percent of the land in this valley is too salty for vegetables, and this figure is increasing.

The yellow book tells us that over a period of decades, total dissolved solids in Rafferty would gradually increase. The reservoir would get saltier, and also for a filling period of over ten years or in succeeding dry years, Rafferty water may not meet irrigation standards for sensitive crops with regard to total dissolved solids and boron. It doesn't seem that irrigation agriculture, using such water, could be sustained for very many years before increasing salinity would render the soil unuseable. The yellow book does say, however, that during wet years Rafferty would be flushed out and salinity levels would fall, but irrigation isn't required in wet years. It could be useful in dry years, but at that time the water is too salty.

Further, the economics of prairie agriculture irrigation have always been questionable due to the large amounts of public money required to maintain the water supply in the form of loans to buy equipment and the low price which people receive for irrigated crops. If we could all grow vegetables, it would be fine, but it doesn't take very many acres to supply enough vegetables for the prairie provinces, and most people who are irrigating are faced with irrigating cereal grains or alfalfa. Increased yields just don't seem to pay the costs.

This project, according to the yellow book, would flood 6,140 hectares and irrigate 4,800. It doesn't make much sense to flood productive valley land in order to irrigate poorer land up top. A thorough appraisal of the economics and sustainability of irrigation in this area should be part of the environmental review.

And my third and last topic is the Shand power plant. At a time when the enhanced greenhouse effect and acid rain are causing so much environmental damage, the construction of another coal-fired generating station which will contribute to both is ill-advised and out of step with environmental concern.

It also points out the problem that national-provincial boundaries pose for a healthy environment. Saskatchewan says that it needs more power and that the choice is either nuclear, with one set of problems, or Shand with another set. However, were that Manitoba-Saskatchewan border not there, this need for more power would be met by developing more relatively non-polluting hydro-electric power on Manitoba's Nelson River.

It seems that each jurisdiction, Saskatchewan, Manitoba, and North Dakota, are looking at this project in terms of what the costs and benefits are for them, but no one is providing an overview on behalf of planet earth. It is a deficiency in our system of environmental evaluation that will only be corrected when countries and provinces world-wide begin acting in a more caring and co-operative fashion.

In summary, this project should be subject to a complete environmental review including:

1) Alternative methods of flood control;
2) The sustainability of irrigation agriculture; and
3) The environmental impact of the Shand power plant.

Thank you.

MR. MILLARD: Thank you. Bob Hellman?

BOB HELLMAN: My name is Bob Hellman from Virden, Manitoba. I am representing the West Man Wilderness Club.

Over the years we have used the river numerous times for canoeing. We, the West Man Wilderness Club, are greatly concerned about the effects of the proposed Rafferty-Alameda project. The project is both economically and environmentally unsound.

First of all I would talk on the economic aspects of the project. The proponents' promise of conservation of water, of recreation and irrigation benefits and flood protection for Manitoba, are misleading. The proposed project would not be a good way of conserving water because 75 percent of the average yearly annual flow would evaporate. This evaporation would cause salts and other chemicals to become more concentrated in the dam, making the water quality marginal for irrigational and recreational uses. As far as irrigation is concerned, the dam would flood more acres than it would irrigate. The cost of this minor irrigation would be so high that no one could afford it unless it was subsidized. The Rafferty reservoir would smell bad and fluctuate up to 15 feet per year. I wonder how many people would choose to recreate beside a body of water like this.

The environmental effects of the proposed project would be wide-spread, affecting a large area including Saskatchewan, North Dakota, and Manitoba. In Saskatchewan, much wildlife habitat would be lost to the dams. Rare and endangered species of both plant and animal life would be destroyed or threatened because of the proposed project. Wetlands may also be drained to fill the dams. They say they won't drain the wetlands, but I don't believe it. I found it humorous when a politician stated that the dams would provide good duck habitat. This is simply a lie. Ducks do not like large, stagnant bodies of water, but small shallow ponds. Mercury pollution would be a serious problem in the Rafferty-Alameda project, and downstream from it, for many years.

Manitobans would get no significant flood protection from the proposed project. This information was taken from a study done by the Manitoba Government. We would be too far downstream from the dams to be, with so much area draining into the river, to have any flood protection benefits.

The dams would be built to provide water for the cooling of the Shand power plant, however, power could be bought for one-half the cost of production in this plant from Manitoba.

Minot would get flood protection from the proposed project, but I know other methods, less environmentally damaging, could be installed to prevent flooding, such as a floodway like Winnipeg has.

In North Dakota, reduced flows into the state would have a serious effect on Lake Darling's water level, severely hurting the fish populations. Wildlife refuges would also be ruined because of lower water levels.

The environmental effects on Manitoba would probably be the worst. Think about the facts obtained from the studies done by the Province of Manitoba and taken from the Initial Environmental Evaluation. 75 percent of the average annual flow into the dam would evaporate each year. Saskatchewan will also use 50 percent of the flow of the river. This leaves a lot less water for people downstream in Manitoba, 29 percent less during the filling period, which could take as long as 40 years, and 15 percent less once the dam is filled, if it ever fills. Water flows would be reduced in every month of the year.

Another fact to consider is that during drought years, North Dakota does not have to give us any water at all. North Dakota will be receiving less water from Saskatchewan, and therefore will likely declare drought much more often. In low-water years they simply will not have enough water to give us any and we will be out of luck when we need the water the most.

Reduced flows of water would also affect the quality of water in the river. The sewage from Minot and the chemicals dumped into the river along the way would not be as diluted as they are now. Fish would also be adversely affected in the Souris River.

Unlike the proponents of Rafferty-Alameda project, I have based my report on facts obtained from studies done on the river, not on speculations and wishful thinking. In fact, all the terrible environmental effects of dams are not even known, because proper studies have not even been done yet on the effects on Manitoba. I think this is the reason why the proponents are so worried about hearing the truth from proper study. The Rafferty-Alameda dam project is not sustainable development, but blind development with no real concerns for long-term effects on the people downstream in Manitoba.

I realize that the people in Saskatchewan need water, as we do. I don't deny them the right to the water, but there are many viable alternatives to explore before commencing with this Rafferty-Alameda disaster. One viable alternative could be this; small, more numerous dams could hold water more naturally, would provide people with water where they need it, and still provide flood protection and wildlife habitat.

The Initial Environmental Evaluation indicates that there are many harmful environmental effects that are not mitigatable. The evaluation also states that there are many information deficiencies that need further study. Under all these circumstances of what we know about the proposed projects' disastrous environmental effects, and what we don't know about the project, I feel that it is the federal government's duty to refer the proposed project to an independent panel under the Environmental Assessment Review Process. Water is very precious to us in Manitoba, and we don't want to take any chances with endangering this resource. We want to know all the facts before any more work is done on the project.

If there is any support for these dams in Manitoba, it's because proponents have come to various small communities and have done a slick selling job and have raised false expectations of what the dams would do for them. I also note that there has been many people from Saskatchewan giving briefs in Manitoba. I thought the hearings in Manitoba were for Manitobans to give their thoughts.

Finally, I must commend the Government of Manitoba. Once they learned about the true facts of the Rafferty-Alameda, they changed their position, and now oppose that the project go ahead without proper environmental impact studies.

One other thing I must add is I resent that the proponent of Rafferty-Alameda gets to give a selling job on the project before each meeting. This is clearly biased. Thank you.

MR. MILLARD: Thank you. Harold Madson.

HAROLD MADSON: One of the first things that I notice when I drive into Manitoba is the licence plates, "Friendly Manitoba". I wouldn't want anything that I say here tonight to change that. A lot of people from my area come to Brandon to shop, and they appreciate the services they get here. I have prepared a small brief.

I am just a farm boy from Saskatchewan that likes water. My name is Harold Madson. I am making this presentation on behalf of myself and those who feel as confident in our justice system as I do.

I live in an area approximately 15 miles to the east of the Moose Mountain Creek and have, except for my university years, lived my entire life there, farming first with my father, then with my two brothers. I have been a member of the Saskatchewan Wildlife Association Federation for some 20 years, and the Canadian Wildlife Federation for some ten years. I have been a person concerned with the well-being of nature and the environment in all of my farming practices, from the proper use of farm chemicals -- I use chemicals -- and the disposal of their containers, to the preservation of some wildlife lands. I am presenting this brief to try and convince those concerned that while some projects, such as the Rafferty-Alameda, won't have an immediate detrimental effect, long-term benefits more than compensate, not only for the physical changes, but with proper management and increasingly new and better technology, can guarantee a long lifetime of payback.

Page 20 of the IEE draft summary states that water quality in the mainstream Souris would likely improve, particularly during low-flow periods. This would be of benefit to all Manitobans on the Souris system. Other Manitoba concerns, as on page 22, should be expanded to include what effect the improvement of methods of disposal in the sewer system of sewage and other pollutants would have considering the expected 15 percent loss of water flow.

Grant Reed, a fellow cattleman from Moosomin, Saskatchewan who has his 100-year old farm next to the Moosomin dam project on the Pipestone Creek, states that since the dam has been in place, the water backed up behind it has caused a large increase in rainfall some 20 miles to the east of it.

In a letter written by my aunt to my great uncle, who was living in Denmark at the time, she states that they always seemed to have a crop at Fairlight, Sask., on the west side of the Moose Mountains, which contained Kenosee and White Bear lakes. The date of that letter is 1937.

These are but two examples of spinoff environmental benefits from large bodies of water.

The people of Manitoba should also consider the example of the reservoir at Lake of the Prairies. The economic benefits, along with the cultural, should convince most people that we, in southeast Saskatchewan, should be allowed to retain and share 50 percent of the water originating from our environment.

It must be noted that the Government of Saskatchewan is purchasing some 61 quarters of land in the Rafferty-Alameda project area, much of which will be environmentally used for a net increase in the wildlife population. As one writer has put it, the world in which we live is one of all people where, to exist, one has to adapt. If one cannot adapt, you must move over and make room for those who can, because the one inflexible law is that nothing remains the same.

To oppose this project on political grounds is ludicrous, and shows little respect for not only the environment, but for the greatest resource that we have, our people. Thank you.

MR. MILLARD: Thank you. Wayne Neily?

WAYNE NEILY: Mr. Chairman, ladies and gentlemen; first of all, perhaps I should perhaps clarify that we are the Manitoba Environmental Council, not quite as on your program, and we are from Manitoba, not Minnesota. All right.

The Manitoba Environmental Council is a citizens' advisory body established under the Manitoba Environment Act whose duties include investigating environmental matters and promoting environmental awareness. We therefore welcome these meetings as potentially important steps toward determining the impacts of the Rafferty-Alameda project on Manitoba's environment, and informing Manitoba of these ramifications.

We are grateful to those courageous Saskatchewan residents who took the legal action that prevented the project from proceeding with virtually no consideration of the impacts on Manitoba, and appreciative of the decision of Canada's Minister of the Environment to immediately initiate the application of the federal EAR process to the project when the injustice was made clear to him.

Water management projects are always difficult to deal with because they represent the point of view that we should change nature to conform with our needs, while most environmentalists would prefer to see human activities adapted to nature so that our actions are minimally disruptive. From the latter point of view the word "improvement" as applied to human alteration of rivers, as in the International River Improvement Act and at various points in the IEE, is particularly offensive with its implication that we can do a better job of creating rivers than God or nature.

Similarly, we have difficulty with the notion that unless river water is being used by humans, it is simply going to waste. This seems to be the basis of the American use it or lose it policy, and of the IJC's interim allocations of the Souris River water. It is evident that if Saskatchewan retains 50 percent of that river's water, or otherwise changes the flow regime, that there will be impacts, albeit diminishing ones, all the way downstream. The other 50 percent is being used already downstream by aquatic and riparian plants and animals from Melita to Hudson Bay, not just the part that is directly used by people.

As the Bruntland Commission noted, at a minimum, sustainable development must not endanger the natural systems that support life, including the waters. Surely in this era, one of our objectives in water use should be to return water we use, unimpaired in quality or quantity as nearly as possible, to continue its role in the downstream ecosystems.

Some water used by people goes into the production of plant and animal cells and some may get back into ground water, but the vast majority of this used water that does not return to the watercourse is lost through evaporation. This loss can be greatly reduced by more efficient irrigation, use of closed or vapour-recapture cooling systems, and of numerous smaller water retention areas with emergent vegetation, that is marshes, instead of one or two alleged lakes. In this context, we are somewhat astonished that a plan such as this should have proceeded this far using water guidelines that were recognized as interim 30 years ago, partly because the Manitoba requirements were not fully identified at that time. The Chair of the IJC noted then that when Manitoba's use is established, quote: "We will have the opportunity to reopen the matter and take it up on that basis", unquote. It is clear, from last year's situation, that our allotment of about a half a cubic meter per second at the border is seriously inadequate, and we strongly support the intention of our Minister, as stated at the Melita public meeting, to request the IJC to reconsider these interim allocations.

There have been so many small-scale drainage projects in this basin that it's nearly impossible to say, today, to what extent the flood and drought cycle that the Rafferty-Alameda project is designed to relieve is natural, and to what extent downstream ecosystems are adapted to it. This is a factor that should be considered by the IJC, especially if new allocations are to be made on a seasonal basis, as at present. It should not be assumed that all flooding and all drought are bad for all users. Since so much of the impact analysis is based on the 1959 interim guidelines, with their totally inadequate Manitoba allocation, it seems clear that the project should at least be suspended until final allocation guidelines satisfactory to all parties can be developed, and the Rafferty-Alameda proposal can be reviewed in that project.

We are also concerned that the IEE deals only with areas of federal responsibility, and that interprovincial impacts on water quality and quantity are not identified as being areas of federal responsibility. There is something drastically wrong with our environmental assessment review processes in Canada if one province can approve a project having significant impacts in another province without the consent either of the province affected, or of a neutral reviewing body at a common, in this case federal, level of jurisdiction.

Also, as was pointed out by intervenors at the Saskatchewan hearings, there has not yet been an environmental assessment review prepared for any part of the project which considers alternatives to the suggested methods of meeting the identified goals. Fragmenting the impacts into federal and provincial responsibility areas is a way of minimizing them. Failure to consider alternatives is a way of making proposals seem to be justified. Either of these approaches would reduce the department's ability to advise whether or not the proposal, quote:

> "will serve the long-term interests of Canada",

unquote, the criterion for licencing under the International Rivers Improvement Act.

Even with these reservations, we see enough residual effects and information deficiencies identified in the IEE that it is clear that the project should not go ahead at present. If there is not considered to be enough information now to simply refuse the licence for it, then a full environmental impact assessment of the entire project should be undertaken with an independent panel and public review.

There are many reasons why the Council considers that this project should not proceed, but time limits prevent consideration of all of them here. Some have been identified by the IEE already, so we shall try to concentrate on others, and on the impacts in Manitoba.

One very major weakness of the environmental impact assessment and other studies and projections done to date is that they do not consider the consequences of global climate change, particularly of climatic warming in central southern Canada. Environment Canada has been concerned for some time about the greenhouse effect caused by the buildup of CO-2 and some other gases by the excessive burning of coals and other fuels, and has been warning in its annual report, since about 1986, that we have to begin to adapt to warming. Some, perhaps most models, predict a maximum warming centering on southern Manitoba with up to eight to nine degree increases in mean temperature by the 23rd year, 2050, and that's even without the Shand Power Station. This is associated with at least a 50 percent loss in soil moisture, decrease in precipitation, and increase of drought. Although this trend to global warming may not be certain yet, and might be reversible through a massive international effort to reduce the production of greenhouse gases, there is considerable evidence for its reality, and it has received general acceptance by the world's scientific community. To ignore the effects of this factor on a project such as this would now be indefencible.

The IEE identifies a need for a common updated data set for water flow through the whole basin system. To this we would add the need to consider the effects of probably reduced precipitation, and increased evaporation. Simulation models considering these factors should be developed for predictions of reservoir filling time, evaporation losses from reservoirs, cooling and irrigation, impacts on water flows in Manitoba, impacts on water quality, impacts on wildlife, fisheries, and recreational users.

This consideration of climatic warming should also form a part of the review of allocations by the IJC proposed earlier. It may well be impossible to allow Saskatchewan to retain 50 percent of the flow and still provide adequate flows in North Dakota and Manitoba in a continuing drought situation.

MR. MILLARD: Mr. Neily, you are close to the ten minutes.

WAYNE NEILY: Okay. Another area of concern is the relative lack of attention to the impacts of changing the seasonal flows on the ecosystems that have adapted to them. It is noted in the IEE that should the period history cf replenishing flows be significantly modified, species diversity could be affected. Although this understatement doesn't provide the details needed to assess the effect, the seasonal change would be reduced further, as well as the mean flows in the case of climatic warming, and the consequences probably more serious. The effects of peripheral wetlands could be particularly serious, and the same factors, of course, would decrease the water quality further, particularly in respect to dissolved O-2, ammonia, and dissolved salts.

I have a few more details on this, but since we are running out of time I think all of you are aware that the water quality, on average, will decline. It's quite clearly indicated in these studies. We go on to the next point.

In general, there seems to be very little attention to the impacts of changes in water quality, quantity, and seasonal distribution on many aspects of the ecosystems in Manitoba and elsewhere, especially on the key components, the aquatic vegetation and the benthic invertebrates, as well as on vertebrates such as fish and ducks. Ducks, incidentally, only represent only about 10 percent of the migratory birds using the area, or the species of migratory birds.

Even with the limited information available at present, it is evident that the impact on wildlife and ecosystems of this project would be severe. To call especially-destructive components such as the channelization of the river, which would destroy about 32 kilometers of riparian habitat, an improvement is a particularly cruel irony.

Given that even without consideration of climatic change or re-allocation of water by the IJC, the projected filling time for the reservoirs was from ten to 40 years, and that over a period of several decades the Rafferty reservoir would gradually fill in with silt and material eroded from its shorelines, in the long run this may be a rather expensive deep marsh that would provide additional wildlife habitat as well as water storage. This goal may be desirable, but surely could be better achieved in other ways.

With all the information deficiencies and residual impacts identified, it is clear that the project should not go ahead at this time. We therefore support fully the recommendation of the Manitoba Government that this should be referred to a panel for full evaluation under the provisions of the federal EAR process. We would expect that this EARP would be subsequent to a reallocation of Souris River water by the IJC, that it would consider alternatives to various aspects of the proposal, and that all the informational accuni (ph), including consideration of climatic change, would be filled, and incomplete mitigation plans would be completed and made available for discussion at public hearings prior to any decision to approve a licence under the IRIA. We trust that the result would be to the long-term benefit of all residents of the regions, and would ensure the sustainability of all native ecosystems. Thank you.

MR. MILLARD: Thank you, sir. Eldon Schmitz?

ELDON SCHMITZ: Good evening. This will be short. My name is Eldon Schmitz, I am here to speak on behalf of the Brandon Natural History Society, a Western Manitoba group consisting of about 50 members, of which I am one.

We in the Society feel that in the case of the Rafferty-Alameda dams, a full environmental study has still not been completed. We urge Environment Canada to place this matter before an independent panel and to conduct a full-scale environmental assessment review process.

We do not feel any of the so-called environmental studies done by the Souris Basin Development Authority are credible. The Souris Basin Development Authority has been misleading and has not been up front in the past. Why should we now trust any of their studies? We, the people of Canada, have laws to protect our environment, but the laws do not seem to have mattered in this case. The only way to determine all the effects of these dams is to do a full environmental basin study.

If these proposed dams are built and there are negative effects on Manitoba, who will be responsible? Who will pay to correct or mitigate the negative effects? Surely not the taxpayers of Manitoba. I thank you for the opportunity to speak.

MR. MILLARD: Thank you. Lorne Henry?

LORNE HENRY: Thank you, Mr. Chairman, ladies and gentlemen. I am a farmer from the Portage la Prairie area, and my farm is right along the Assiniboine River, and we are pioneer farmers in that area, we are going back seven generations. I just want to preface what I am going to say with a comment that the Souris River affects not only those in its basin in southwestern Manitoba, North Dakota, and Saskatchewan, but it also affects those people downstream on the Assiniboine River, and I will go on to talk about that.

In 1923 the Assiniboine River flooded its banks at Portage la Prairie, washing away wood piles, flooding basements and main floors of houses. Flows on the Assiniboine River at Brandon in 1923 were extremely high for a period starting around the 20th of April, with a flow of over 10,000 cubic feet a second, with the May 5th to 9th being the heaviest flow with just under 23,000 cubic feet a second.

Contrarily in that year, 1923, the Souris River at Wawanesa, where it empties into the Assiniboine River, had only flows in the last half of April and the first half of May which were around the 2,000 to 2,500 cubic feet a second, with peak flows around 3,000 to 6,000 cubic feet a second for only five days around the 15th to the 20th.

So the floodwater in Portage la Prairie that year was due, in a large part, to the flow down the Assiniboine itself. The Souris River was an insignificant contributor in that year. This was long before the Shellmouth dam was constructed. Since then, the spring peak flood flows on the Assiniboine River itself have been greatly reduced in our area. The river channel itself, in 1923, was flowing at over

20,000 cubic feet a second. There were no dikes on the river at that time, as they were built in the 1950's from Portage ıa Prairie to Headingley.

If one looks at the ten-year average of the spring flooding on the Assiniboine River downstream from Portage at that time, before the Shellmouth dam, the river overflowed its banks three or four or even five times in ten years consistently. Since the Shellmouth dam was built, the worst of excess flooding most often occurred when the Souris River was the contributing flow, in years such as 1969, '74, '75, '76, and '79.

I would point out 1974 which, when the flows on the Assiniboine River measured at the Holland bridge on 34 highway exceeded 32,000 cubic feet a second in April and May, this was supposed to be a once in 300-year flood. Many roads, farmlands were severely damaged in the Assiniboine valley that year. A great deal of the excess flow came from the Souris River that year also, where there was practically no upstream controls.

I would point to 1976 as another example. Flows at the Holland bridge measured 52,000 cubic feet a second, which is roughly a two-third increase in total flow over 1974, the once in 300-year flood year. The Souris River was by far the major contributor that year. From talking to people in Natural Resources, they kept saying "you better not start farming in the valley because there is a lot of water coming out of southern Saskatchewan and it's going to be coming for a long time", and it sure did.

To give an example of the damage on our farm in the Rural Municipality of Portage la Prairie on a 280-acre field in the valley, it cost us personally over $15,000 to fill in the holes and try to put the topsoil back where it was before it was eroded. Practically all the river valley farms had a similar devastation. It took some farmers ten years to bring their fields back into working shape, never really getting back into the shape that they were before the flood. There are at least 50 farm field valleys that had similar destruction as we had, so using our farm as an example and you multiply those two figures out, you come out with a cost of repairing your farm, to all of those farms, of $750,000.

This is also a tremendous cost to the muncipalities and the Government of Manitoba when consideration is given to just the few damages that I know of personally. I'll list some.

- The bridge on number 2 highway at Wawanesa on the Souris River was washed out, the road was closed for two months or more, I think it was closed for half the summer or more.

- The highway number 5 between Glenboro and Carberry was closed for over a month with water on the bridge and on the road both.

- The Treherne Ferry was washed down the river, ending that service forever.

- The south approach to the bridge near Rossendale on provincial highway 242, which is a major bridge, had its south approach washed out and the span fell in the river. The road was closed for six months. Barricades had to be erected upstream, just close upstream from the bridge in the river, to protect the bridge approach and the riverbank itself.

- In the Rural Municipality of Portage la Prairie provincial highway number 305 was purposely cut 300 feet wide just south of the Hood bridge to save the bridge from the ravaging waters. The road was closed for over a month. The piers on the bridge had to later be fortified with rock in order to stabilize it. A flood bridge was built where the road had been cut to relieve future possible damage to the Hood bridge.

- The Portage diversion was built for 25,000 cubic feet a second and it was flowing at near 30. This eroded the diversion channel in many places, including the area around the bridges on the

TransCanada Highway west of Portage. The Portage diversion flooded over at the north end, flooding farms in that area. The armed forces personnel were called in to reinforce the dikes that line the Assiniboine River from Portage la Prairie to the white horse near Headingley. These dikes were also damaged and had to be repaired. The river at Portage was lapping the banks with a flow of 22,000 cubic feet a second. The diversion, at close to 30,000 cubic feet a second, was also lapping the banks. There was a great fear that the dikes would be topped or bust, causing great flooding to the east of Portage la Prairie. There was also a concern that the Portage diversion structure, which diverts the water out of the Assiniboine into the Portage diversion to go to Lake Manitoba, was at risk. They weren't even sure it was going to stay there.

MR. MILLARD: Mr. Henry, you are getting close to the ten minutes.

LORNE HENRY: I just have a little bit more. I have never made a presentation on this, nobody has made it from my area, and I would like to finish, sir.

The benefit of such dams, such as the Shellmouth or such dams proposed as the Rafferty and Alameda, provide direct benefits for people and for farms downstream. They help ease the flood damage in peak periods in the spring, they guarantee a water supply for vital purposes the rest of the year. A good example of this was when the low flows in the Assiniboine River last year upstream from Brandon were so low that they had to release water from the lake behind the Shellmouth dam in order to prevent water rationing in the City of Brandon. It is my understanding that this condition happened at least once prior to this, and at that time there was no Shellmouth dam, and the water had to be released out of Lake Diefenbaker at Outlook, Saskatchewan in order to meet Brandon's needs. Without either of these dams, this would not have been possible, resulting in a very serious situation for the City of Brandon and its people.

If the Portage diversion had not been in place, these questions can be asked: Where would that 30,000 cubic feet a second of water have gone? What would the damages have been in Portage la Prairie, Poplar Point, Rayburn, Newton, Oakville, St. Eustache and Elie? What would have been the damage to the farmlands in the area north and south of the river all the way east from Portage to Headingley? They have been ravaged in the past over the years, but by nowhere near such a flow.

The Rafferty and Alameda dams, lessening the flow on the Souris River in the peak periods in the spring, can do nothing but save millions and perhaps billions of dollars in damages for all the areas that I have just previously mentioned. The possibility of damage to homes, roads, bridges, farmland, and the farmland especially, which cannot be probably brought back to what it was before the flood hit it.

As someone who has suffered, personally, great losses, I would like to see the project go ahead without undue delay. I agree that we want to protect the environment, but I don't think that we need to delay it forever. If we would have delayed forever putting the Portage diversion in, what would have happened? If we would have delayed forever putting in the Winnipeg floodway, what would have happened? I would like my grandchildren to enjoy the benefits of these proposed dams, but I would also like to enjoy them myself, so I hope the dams are built soon. Thank you.

MR. MILLARD: Thank you sir. Earl Geddes?

EARL GEDDES: Thank you very much, Mr. Chairman, ladies and gentlemen; the reason my name is not on the list is because I phoned the number in Regina and asked them to put my name on the list, and I guess if you follow the procedure it doesn't always happen the way it's supposed to, but I have no concern about that so long as you people aren't concerned that I am speaking without my name on the list.

Earl Geddes
Brandon, Manitoba
Thursday, June 29th, 1989

My name is Earl Geddes and I farm at Pilot Mound, I have a grain and beef cattle operation. I am President of Keystone Agricultural Producers which, for those of you out of the province, is a farm organization in this province which attempts to represent as many farm families as we can on issues of policy and concern to farm families in this province.

At a recent meeting of our general council held in Portage we were asked by the membership, or the delegates that represent the membership of the organization, to make aware those entities which were making decisions in and around the Rafferty-Alameda dams project of some of the benefits that farmers in the Province of Manitoba perceive that these dam projects can have for them. That's really the essence of my presentation tonight, and it will be very brief.

As I am sure many of you know in the audience, when you are the president of an organization, it becomes very difficult to give personal comments on things that don't get tied directly to the organization, but I would like to ask your indulgence for about two minutes for me to do that. Having the luxury of having heard some of the very excellent presentations this evening and some of the comments that were made, I think I should be allowed to make one or two personal comments.

First, I share very closely the concerns that Ruth Pryzner raised about the Garrison project. I think she is correct to raise them in this context, and we want to be sure that we, as Manitobans and Saskatchewans and Canadians, are conscious of the impacts of that project, although I see this as a significantly different exercise.

I would like to also make a comment about the environmental approach that we should mold people around our environment, which I fully agree with, but to accomplish the goals of doing that would mean that we would mold people around our environment and we would go back to using candles and living in sod houses. Now that's not realistic, and it may not even be desirable, but it would certainly generate small ponds, and ducks, and deer, and all kinds of flora and fauna out there that are desirable, but you have to have a logical approach to the exercise.

Let me begin by stating that the Souris River is of vital importance to the agricultural community of Manitoba. There is no question about that. The preservation of the water flows and the water quality is of extreme importance to us. I would like to compliment John Whitaker from the National Farmers Union in the presentation that he made in and around the drainage of potholes and wetlands in Saskatchewan, Alberta, Manitoba, and the environmental impact that that has had. I think probably it far outweighs any environmental impact that these two dam projects will have. We have attempted, over the last number of years, to reverse some of that trend. We have spent millions of dollars attempting to do that rather unsuccessfully. Some local successes but I certainly, John, I agree with you fully that the impact of that drainage has been devastating to the entire Western Canadian landscape.

KAP believes that it is important to understand the impacts which this project may have, and we commend the federal government for taking the initiative to hold these hearings. To this end we would, however, insist that the benefits of these dams on the entire agricultural community, whether it be Saskatchewan or Manitoba, whether it be small towns or farms, be considered against the concerns raised over anticipated changes to the ecosystem. The benefits must be considered against the perceived changes in the ecosystem when judgments are made in the end. The two main benefits which we see to the agricultural community from this project are firstly the reduction in flood damage; and secondly, the greater assurance of available water in years of low precipitation.

Now while one cannot expect that flooding will no longer be a problem along the Souris River, and I don't think anyone has suggested that that's the case, the projected flows being lower and the shorter duration of the flood period would clearly reduce the costs associated with that flooding. The impact of a somewhat reduced flow reaching the Assiniboine River would also reduce the risk of serious flooding along that channel.

During the period of time that the dams are being filled or in the filling stages, we would expect that regular or historic flows from July through October would be maintained. I think, as producers in Manitoba, we have the right to expect that.

And I might digress from my text for a moment and say that, as a farmer in Manitoba, I would much rather negotiate with the Province of Saskatchewan for some water, if it was required in that channel, than try and drag it back from Hudson Bay. There is a resource available there if you have a crisis situation. You have a 1959 interim agreement that can be renegotiated. To renegotiate it last year when there was no water available probably would not have been in the best interests of Manitoba. If you have a reservoir, available, that's the time when I think it would be most beneficial to renegotiate that type of an agreement.

Having increased flows from July to October through the summer months, as is indicated in the fisheries section of the IEE, would make agriculture along the Souris River in Manitoba much more secure. Livestock operations would be assured of water supplies along the river system during the grazing season, as would the communities that do other agricultural activities on that system.

Before I conclude, I would just like to once again raise that in this era of environmental consciousness, I think we are moving into a time in our history in this country and around the world where we are maybe going to stop degrading some of what we have, but we have to keep in mind, whether it's the use of 2-4D or whether it's building a dam in a project somewhere, there may well be a risk at times to achieve a benefit, but you have to weigh the benefit against the risks. If the benefit in the long-term to agriculture, to wildlife, to prairie life is greater than a perceived risk, I think you have to take a decision based on that. You cannot take a decision simply because you can measure something. I think, in the pesticide review that is happening currently in Ottawa, the fact that you can measure a part per billion or part per million doesn't mean you have a risk. It's time that we looked at the risk and the benefits and the real story.

In conclusion, I would just like to say that with assurances that water quality and quantity will be maintained, the Rafferty-Alameda dam projects can make some significant beneficial contributions to agriculture in Manitoba.

MR. MILLARD: Thank you. That completes the presentations. We can take a ten or so minute break and then come back and see if there are any questions.

For some of the presenters that didn't provide us with a copy of their presentation, if they have a spare copy, would you mind giving us a copy? It would just help a little. Thanks very much.

(Meeting adjourned at 9:58 p.m.)

(Meeting reconvened at 10:10 p.m.)

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PREMIER OF SASKATCHEWAN
[illegible]
[illegible]

July 10, 1989

Mr. B.N. Burns
Director General
Conservation and Protection
Western and Northern Region
Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

On behalf of the Government of Saskatchewan, I submit the attached brief outlining the Province's position respective to the Rafferty-Alameda Project.

Yours,

Grant Devine

GRANT DEVINE
PREMIER OF SASKATCHEWAN

Enclosure

BRIEF

PRESENTED BY:

THE GOVERNMENT OF

SASKATCHEWAN

TO

ENVIRONMENT CANADA

REGARDING

THE RAFFERTY - ALAMEDA PROJECT

JULY 1[illegible], 1989

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1.0 SOURIS RIVER BASIN APPORTIONMENT HISTORY

1.1 Introduction

There are a number of important milestones that have marked the history of development and apportionment of waters within the Souris River basin over the past 80 years. The Boundary Waters Treaty of 1909, Article 7, established the International Joint Commission (IJC), which has, since that time, intermittently had to deal with issues pertaining to the Souris River and its tributaries in Saskatchewan, North Dakota, and Manitoba.

While not attempting to be exhaustive, this portion of the submission refers to a number of these milestones. The 1940 IJC Hearings resulted primarily from the drought of the 1930's and Manitoba's request to deal with the reduced flows on their portion of the Souris River in the late 1930's, partly as a consequence of the U.S. National Wildlife Refuges constructed in North Dakota in the mid 1930's. These hearings resulted in the recommended IJC measures, which were in effect until 1959. While there were requests for approvals from PFRA for smaller dams on tributaries, and requests for meeting increasing needs for the City of Minot and others, it was not until the Province of Saskatchewan applied to the Commission in May, 1955, for approval to construct the Boundary Dam on Long Creek that a second set of public hearings were called throughout the Basin. Saskatchewan clearly indicated at the IJC Hearings in September, 1955, that the 1940 Interim Measures were inhibiting its further development. Partly as a result of Saskatchewan's insistence, the IJC in 1958 recommended changes to the interim measures. These were approved in 1959 and form the basis of international negotiations for the Rafferty-Alameda Project now in 1989.

Today, as for the past thirty years, Saskatchewan has had the approval of the Commission to retain 50% of the natural flows of the Souris River originating within its boundaries. While having the right, Saskatchewan has not exercised that right because it lacked adequate storage reservoirs to save its share of the Souris River water. To have a better understanding of Saskatchewan's current position on this important issue, the following facts are presented.

1.2 Boundary Waters Treaty, 1909

In order to place the Rafferty-Alameda water management proposal in proper historical perspective, a brief review of the Boundary Waters Treaty, 1909, and subsequent deliberations of the International Joint Commission with respect to the Souris River are warranted. The 1909 Treaty dealt with boundary waters and questions arising along the boundary between Canada and the United States. The Treaty was aimed at preventing disputes regarding the use of boundary waters and to settle existing and future questions which may arise from time to time. The Souris or Mouse River, which originates in Saskatchewan, crosses the international boundary near Sherwood, North Dakota, and passes through Minot before returning to Manitoba near Westhope, North Dakota, is such a water body governed by the Boundary Waters Treaty of 1909.

Article 2 of the Treaty states, in part, that:

> "Each of the High Contracting Parties reserves to itself or to the several State Governments on the one side and the Dominion or Provincial Governments on the other, as the case may be, subject to any treaty provisions now existing with respect thereto, the exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters on its own side of the line, which in their natural channels would flow across the boundary or into boundary waters ..."

Source from Treaty Series No. 23, 1910, Page 312

Article 7 of the Treaty states that:

> "the High Contracting Parties agree to establish and maintain an International Joint Commission (IJC) of the United States and Canada ..."

Other Articles of the Treaty provide for the jurisdiction of the IJC and matters requiring adjudication or decisions.

1.3 International Joint Commission Hearings, 1940

On January 15, 1940, the Governments of Canada and United States agreed to refer three questions to the International Joint Commission for investigation, report, and recommendation with respect to the waters of the Souris (Mouse) River and its tributaries which cross the International Boundary.

The three questions were as follows:

> "Question 1:"
>
> In order to secure the interests of the inhabitants of Canada and the United States in the Souris (Mouse) River drainage basin, what apportionment should be made of the waters of the Souris (Mouse) River and its tributaries, the waters of which cross the international boundary to the Province of Saskatchewan, the State of North Dakota, and the Province of Manitoba?

> "Question 2:"
>
> What methods of control and operation would be feasible and desirable in order to regulate the use and flows of the waters of the Souris (Mouse) River and of its tributaries the waters of which cross the international boundary, in accordance with the apportionment recommended in the answer to Question 1?
>
> "Question 3:"
>
> Pending a final answer to questions 1 and 2, what interim measures of regime should be adopted to secure the foregoing objects?

(Source - 1940 IJC Report, Page 5)

In view of the conditions in the Souris River watershed at that time, 1940, early consideration of Question 3 was requested. In June, 1940, public hearings were held in Melita, Manitoba, Minot, North Dakota, and Estevan, Saskatchewan. It was agreed at that time that no works would be undertaken by the Governments of Canada or United States and that the existing temporary arrangements for the passage of water be continued until after the IJC had submitted its final report.

The 1940 IJC Report on the Souris River Investigation summarized the history of legislation and projects that had taken place on either side of the International Boundary to that point in time.

In 1931, Saskatchewan had enacted The Water Rights Act which established, subject to riparian rights, an order of precedence for the uses of water. A number of water rights had been granted and others were pending. In 1935, Canada passed The Prairie Farm Rehabilitation Act to provide for the rehabilitation of the drought areas in the Prairie Provinces. The utilization of all available surface waters was recognized as a vital factor in carrying out the provisions of the Act. An active program of water development was initiated, including a number of projects within the Souris River watershed, some on the main stem of the Souris River, and others on its tributaries.

North Dakota's granting and recording of water rights began in 1905, some twenty-five years after settlement of the Souris River watershed began in that State. As in Saskatchewan, various local and federal agencies began an extensive program of water conservation and utilization in the early 1930's. A number of dams and reservoirs were constructed on the Souris River system in North Dakota at this time. The United States Biological Survey built a number of dams after 1934, creating Migratory Waterfowl Refuges on the Souris and its tributaries.

The IJC report indicates that, prior to 1935, the number of water supply works or dams within the Manitoba portion of the Souris basin was limited. PFRA undertook a number of dam projects between 1935 and 1940, rebuilding some aging earlier works and building new control structures on the Souris River and its tributaries.

The Manitoba Report to the 1940 Commission Hearings stated that:

> "...the drought conditions of the past ten years have not only revealed a need for greater utilization of the water and other natural resources, but they have also resulted in an enlargement and broadening of policies to encourage and promote works to conserve and utilize water for stock or domestic use, for agriculture, industrial, recreational and wildlife purposes.
>
> With this object in view consideration is now being given to the possibility of developing a large capacity reservoir on the Souris River about 135 miles downstream from the international boundary and to the diversion of this water to irrigate large tracts of agricultural and pasture lands."

(Source - 1940 IJC Report - Page 11)

At the Melita, Manitoba IJC Hearing, June 20, 1940, Government of Manitoba representatives explained that in regard to flows during the ten year drought period in Southern Manitoba, two sub-periods could be considered. From 1930 to 1935 inclusive, Manitoba received through the Souris River, as measured at Westhope, N.D., in these dry years an average inflow of 41,520 acre feet. During the 1936 to 1939 period, the average dropped to 1140 acre feet, an insufficient amount for PFRA to constructively deal with. It was pointed out that because of the lack of water coming from North Dakota into Manitoba, that the Government of that Province had requested a reference of the whole problem to the International Joint Commission. This lack of water entering Manitoba resulted in the 1940 Interim Measures of the IJC, which were in place until 1959 when the current Interim Measures took effect. These 1940 interim measures basically froze apportionment to North Dakota and Saskatchewan at present levels, while ensuring a regulated flow of 10 cubic feet per second to Manitoba during the months of June through October, inclusive.

At the IJC public hearing in Minot, North Dakota, in June, 1940, J. Clark Salyer, Chief of Wildlife Refuges, of the U.S. Biological Survey outlined the history of waterfowl conservation with particular reference to the refuges on the Souris River in North Dakota. There were a number of nesting and restoration opportunities available to the Biological Survey at that time throughout the United States, but the Souris River project was one of the most important to them because the waterfowl productivity of the Souris area was legendary.

According to Salyer

> "It was apparent that the storage reservoir was to be one of the most important features of the project. Our experience during the drought years taught us that if we wanted continual protection, we would have to store during the wet years in order to keep going during the dry years. A study of the stream flow records seem to prove that we could have a successful project here on a major scale. So we purchased the land, made our surveys, built the storage dam and the adjoining dams across the valley to make irrigation marshes for waterfowl..."

(Source - 1940 IJC Report - Page 30).

At the 1940 IJC hearings, Saskatchewan representatives proposed irrigation development of 7,000 acres in the Souris Valley between Estevan and the international boundary. Storage reservoirs were contemplated not only to help drought proof that part of the province, but to alleviate flood conditions in Minot. A dam to impound Souris waters six miles below Weyburn was also contemplated at the time for water supply.

At the 1940 IJC hearing in Estevan, the Counsel for the Government of Canada pointed out that:

> "due to war conditions, it had become necessary to curtail the activities of The Prairie Farm Rehabilitation Act organization and to divert the available funds and engineering staff to an entirely different government purpose. When the present situation had disappeared, he said, the policy of completely utilizing the equitable portion of the Souris River within the Provinces of Saskatchewan and Manitoba would be resumed by the Dominion and the two Provinces."

(Source - 1940 IJC Report-Page 42)

Subsequent to the IJC public hearings in 1940, PFRA filed a report entitled Prairie Farm Rehabilitation Act Water

Development in Souris River Drainage Basin in Canada. The following important statement is made in the report in regard to the value of storage:

> "It will be evident that to make use of the Souris river water, storage is essential. In years of abnormal runoff, particularly the high water years, there is plenty of water for all purposes in both the United States and Canada, provided the facilities are available to store water in the spring to carry over the balance of the year. In years of low flow, however, there is insufficient flow for any purpose in either country. The only solution then is to provide storage reservoirs to carry over from year to year and to make use of the floods which would otherwise run to waste, and it would appear that in consideration of any division of the boundary waters of the Souris river, storage should be considered ..."

(Source - IJC Report - Page 47)

In 1940, the International Joint Commission concluded that the apportionment question was extremely complicated, due to the nature of the drainage system in the various jurisdictions, the many tributaries, the variability in flows, various competing interests, and the inadequacy of stream flow records.

The needs of Saskatchewan, North Dakota, and Manitoba were acknowledged and the IJC itself recognized the value of storage reservoirs in the system. It stated in its conclusions:

> "The reservoirs of the Souris in North Dakota have been built by the United States Biological Survey for their own purposes. They are also, however, of considerable benefit to municipal and other interests in the State, and are likewise valuable as a long-range means of regulating the flow on this unusually variable stream. Without this means of conserving water, all these interests would suffer in periods of natural low water flow, and it would not be possible to release water to Manitoba even to the limited extent needed for human consumption and stock watering."

(Source - 1940 IJC Report - Page 49)

It was recommended by the IJC that in view of the incompleteness of available stream flow data that no permanent method of control and operation designed to regulate the flow and use of the waters of the Souris river and its tributaries be adopted at that time (1940). They assumed that by 1945 available flow records should be much more dependable and informative. These "Interim Measures" were to be followed, pending permanent settlement of the questions 1 and 2 presented in the reference to the IJC.

Additional references were made to the International Joint Commission between 1941 and 1954. The guaranteed summer flow of 10 cubic feet per second to Manitoba was subsequently doubled to 20 CFS in November, 1942.

1.4 International Joint Commission Hearings, 1955

In September, 1955, the International Joint Commission established another set of public hearings in Winnipeg, Minot, and Estevan. This set of hearings once again referred to the earlier (1940) questions of apportionment, but was prompted by further requests by the City of Minot for permission to divert Souris River waters for domestic and municipal purposes, and by the Province of Saskatchewan for approval to construct a dam and reservoir, having a capacity of 48,470 acre feet, on Long Creek.

On September 12, 1955, at the IJC Hearing in Winnipeg, a brief filed on behalf of the Province of Manitoba stated that in all years since 1942, Manitoba had received at least the amount of water allocated under the 1942 amended Interim Measures. In its brief, Manitoba stated that it had an interest in flood control on the Souris River. It stated:

> "During the past ten years, this river has been at flood stage on numerous occasions, causing damage to farm lands, loss of crops, and destruction of valuable property. Control of these floods is not available in Manitoba but must depend upon the use of existing reservoirs and the development of new ones in North Dakota and Saskatchewan.
>
> Manitoba is satisfied that the operation of existing upstream reservoirs during flood runoff periods has in general proved beneficial in reducing flood stages within this Province. Some improvement in this respect might be expected from the development and use of an adequate flood forecasting procedure as an aid in the operation of these reservoirs."

(Source-IJC - Public Hearing Records, Volume 1, pp 14-15)

Manitoba's brief to the IJC in September, 1955, clearly summarized that province's position:

> "Although adhering to the view that the basic principle that should govern the allocations of water to the several jurisdictions is that of equitable apportionment, Manitoba concedes that it is not practicable to apply this principle when dealing with the waters of the Souris River. There are two reasons

for this: first, the extreme variability of the natural flow of the river and the lack of substantial storages at the two boundary-crossings make it impractical to apply the principle of equitable apportionment, even on a yearly basis, at these points; and second, Manitoba has herself no large potential storage such as would be required to permit full beneficial use of the water she might receive under such apportionment.

Manitoba has therefore taken the practical view that she can accept a much lesser total amount of water than would be available to her under the principle stated, on the understanding that she would be supplied with a regulated flow across the boundary of sufficient water to meet her primary requirements and to maintain a live stream throughout the entire reach of the Souris River."

(Source- IJC Public Hearing Records, Volume 1, Page 15)

Manitoba also put forward its request to the IJC for maintaining a live stream in the Souris River throughout the year, not merely June through October. An average flow of an additional 10 CFS during the months of November through May was requested.

The Chairman of the United States Section of the International Souris - Red Rivers Engineering Board presented improved stream flow records to the IJC at the Minot hearing. The Engineering Board Chairman pointed out that average stream flows are mathematical computations which could be misleading. The stream flow of the Souris River is highly variable. It varies from several consecutive years of low flow to an occasional year of abnormally high flood runoff. It was stated that:

> "Considerable reservoir storage capacity at strategic points in the basin and precise river control would be required to equate the stream flow so that these average quantities just cited could be utilised for water resource development."

(Source - IJC - Public Hearing Records, Volume 2 Minot, N.D., September 15, 1955, Page 10)

At the IJC Hearing in Estevan, Mr. Harold Pope, Q.C., counsel for the Province of Saskatchewan, presented its

position. Mr. Pope quoted from Article 2 of the 1909 Boundary Waters Treaty, previously referred to, emphasising that:

> "these waters that originate in the Province of Saskatchewan and flow into the State of North Dakota come under the exclusive jurisdiction and control of the Province of Saskatchewan."

(Source - IJC Public Hearing Report, Volume 2, Estevan, Saskatchewan, September 17, 1955, Page 14)

Mr. Pope's presentation to the IJC clearly emphasized the urgency to revise the 1940 interim measures to enable the Saskatchewan Power Corporation to construct the Boundary Dam Reservoir on Long Creek and the Boundary Dam Generating Station.

1.5 Government of Saskatchewan's Position, 1957

In 1957, Saskatchewan's position with respect to the 1940 IJC Interim Measures can be summarized by two letters which are appended.

The first from Mr. I.C. Nollet, Minister of Agriculture for Saskatchewan, to Mr. J. Leger, Under-Secretary of State for External Affairs, Ottawa, June 10, 1957, refers to the October, 1940, International Joint Commission's Report and recommendations for adopting certain "interim measures". These recommendations were subsequently approved by the Governments of Saskatchewan and Canada. Mr. Nollet's letter states that development of the Souris River Basin in Saskatchewan makes it necessary to have unrestricted use of the waters flowing within its boundaries, which the 1940 Interim Measures prohibited. Saskatchewan had offered to pass on fifty percent of the natural flow of the Souris River to North Dakota, provided that the State of North Dakota would, in turn, pass sufficient water on to Manitoba to take care of that Province's requirements. As the International Joint Commission had not accepted its offer, Saskatchewan considered itself no longer inhibited by the restrictions contained in the 1940 Interim Measures recommended by the IJC.

The second letter, also appended, from J.G. Diefenbaker, the Secretary of State for External Affairs, Canada, to Miss E.M. Sutherland, Secretary, Canadian Section, International Joint Commission, Ottawa, August 6, 1957, supported the Province of Saskatchewan. The Government of Canada thereby formally requested the IJC to modify the 1940 Interim Measures in accordance with Saskatchewan's offer to pass on fifty percent of the natural flow to North Dakota.

1.6 Report of the International Joint Commission, March, 1958

The purpose of this report was to present recommendations for amending certain sections of the interim measures which were recommended in the IJC report of October, 1940, and accepted by the Government of Canada and United States in 1941.

This report acknowledged the June 10, 1957, correspondence from the Saskatchewan Minister of Agriculture and the August 6, 1957, letter from the Secretary of State for External Affairs, Canada. It also acknowledged the Commission had been informed at its executive session in Washington, April 6, 1956, that Saskatchewan planned to proceed with construction of the Boundary Dam on Long Creek.

The Commission concluded that the continued application of the interim measures recommended in 1940, may well have constituted an obstacle to the development of Saskatchewan and North Dakota.

The 1958 IJC report recommendations were subsequently approved in 1959, and are the Interim Measures that currently are in use for the apportionment of the Souris River waters.

1.7 International Joint Commission Interim Measures, 1959 (Souris River Apportionment)

(Source: Extract from IJC Docket #41)

The Commission recommended that it be authorized to create the International Souris River Board of Control referred to in paragraph 21 above and that the two Governments approve the following interim measures in substitution for the interim measures which were recommended in the report dated 2 October 1940, and heretofore approved:

1. The Province of Saskatchewan shall have the right to divert, store, and use waters which originate in the Saskatchewan portion of the Souris River basin, provided that such diversion, storage, and use shall not diminish the annual flow of the river at the Sherwood Crossing more than fifty percent of that which would have occurred in a state of nature. For the benefit of riparian users of water between the Sherwood Crossing and the upstream end of Lake Darling, the Province of Saskatchewan, shall so far as practicable, regulate its diversions, storage, and uses in such manner that the flow in the Souris River channel at the Sherwood Crossing shall not be less than four (4) cubic feet per second when that much flow would have occurred under the conditions of water use development prevailing in the Saskatchewan portion of the Souris River Basin prior to construction of the Long Creek dam referred to in paragraphs 12 and 14 above.

2. Except as otherwise provided herein with respect to delivery of water to the Province of Manitoba, the State of North Dakota shall have the right to divert, store, and use the waters which originate in the North Dakota portion of the Souris River Basin together with the waters delivered to the State of North Dakota at the Sherwood Crossing under Recommendation (1) above: provided, that any diversion, use or storage of Long Creek water shall not diminish the annual flow at the eastern crossing of Long Creek into Saskatchewan below the annual flow of said Creek at the western crossing into North Dakota.

3. (a) In addition to the waters of the Souris River basin which originate in the Province of Manitoba, that Province shall have the right, except during periods of severe drought, to receive for its own use and the State of North Dakota shall deliver from any available source during the months of June, July, August, September, and October of each year, six thousand and sixty-nine (6,069) acre-feet of water at the Westhope Crossing regulated so far as practicable at the rate of twenty (20) cubic feet per second except as set forth hereinafter: provided, that in delivering such water to Manitoba no account shall be taken of water crossing the boundary at a rate in excess of the said twenty (20) cubic feet per second.

3. (b) In periods of severe drought when it becomes impracticable for the State of North Dakota to provide the foregoing regulated flows, the responsibility of the State of North Dakota in this connection shall be limited to the provision of such flows as may be practicable, in the opinion of the said Board of Control, in accordance with the objective of making water available for human and livestock consumption and for household use. It is understood that in the circumstances contemplated in this paragraph the State of North Dakota will give the earliest possible advice to the International Souris River Board of Control with respect to the onset of severe drought conditions.

4. In the event of disagreement between the two sections of the International Souris Board of Control, the matters in controversy shall be referred to the Commission for decision.

5. The interim measures for which provision is herein made shall remain in effect until the adoption of permanent measures in accordance with the requirements of questions (1) and (2) of the Reference of 15 January, 1940, unless before that time, these interim measures are qualified or modified by the Commission.

2.0 WINDFALL BENEFITS TO NORTH DAKOTA AND MANITOBA RESULTING FROM SASKATCHEWAN'S LACK OF STORAGE CAPACITY

The 1959 Interim Order states that Saskatchewan shall have the right to divert, store, and use waters which originate in the Saskatchewan portion of the Souris River Basin, provided that such diversion, storage, and use shall not diminish the annual flow of the river at the Sherwood Crossing more than fifty percent of that which would have occurred in a state of nature.

At present, within all its smaller reservoirs, Saskatchewan can store on average only fifteen percent of the water originating in the Saskatchewan portion of the basin. Historically, since 1912, we have passed over eighty five percent of the Souris River flows to North Dakota. Since the IJC Interim Measures of 1959, over one hundred percent of the natural flows has been passed on for use downstream in North Dakota and Manitoba. This anomoly is explained by including induced flows from the Yellow Grass Marsh area, which are not included in calculating "Natural Flow".

Stated in the simplest of terms, both North Dakota and Manitoba have been receiving and using Saskatchewan's water, a windfall benefit for the past thirty years.

Manitoba has received the benefit of upstream reservoirs not only for the measure of flood damage reduction they provide, but also during low flow and drought periods. In 1988, for example, the Province of Manitoba would not have received any water from upstream in the Souris River if it were not for releases of water stored behind dams in North Dakota.

The Lake Darling dam and reservoir was constructed in 1935 on the Souris River in North Dakota to provide a reliable source of water for the National Wildlife Refuges. Water rights sufficient to meet the annual needs of the Upper Souris and J. Clark Salyer National Wildlife Refuges as well as retain a two year supply in storage within the reservoir were granted by the State of North Dakota. It is to be noted that at its Full Supply Level, the Lake Darling Reservoir is 11,270 acres in size, with a storage capacity of 110,100 acre-feet (135,800 dam^3). This reservoir, on average, is less than three meters deep. Rafferty Reservoir, on the other hand, at Full Supply Level will be 12,048 acres in size, only slightly larger, but will have a capacity of 356,400 acre-feet (439,600 dam^3). In other words, Rafferty will be more than three times as deep, and therefore, subject to less evaporation and summer warming kills than Lake Darling.

While originally established as a water supply for the waterfowl refuges, Lake Darling has developed sport fishing and recreation benefits, making excellent use of Saskatchewan's share of the water. The Lake Darling sport fishery has been valued at 4 million dollars annually. It is anticipated that the Rafferty and Alameda Reservoirs in Saskatchewan will develop better sport fisheries in the long term, with full implementation of fisheries management plans.

The value of large upstream storage reservoirs will be realized when water from the major flood events can be efficiently retained then released on an regulated basis to flow downstream to North Dakota and Manitoba to meet flow obligations in terms of both quantity and water quality. A live stream will benefit all users of the basin water including those in Saskatchewan, not just those downstream in North Dakota and Manitoba.

Tourism and recreation benefits, presently accruing to North Dakota, with the outflow of Saskatchewan's share of the Souris River, will be realized in Saskatchewan once the two large reservoirs become established here.

3.0 SOURIS RIVER BASIN STUDY, 1974-1978

3.1 Introduction

Problems associated with flooding, inadequate water supplies and variations in water quality have been prevalent in the Souris River Basin in Canada for many years. The threat of flooding and the water supply and water quality uncertainties have acted as retarding factors to economic development. The social and economic welfare of the people of the Souris River basin depends to a considerable degree on the way in which its limited water and related resources are managed to serve such uses as agriculture, recreation, assimilation of wastes, and domestic, municipal and industrial water supply. Some of the problems and some development opportunities are affected by international water agreements and by existing and proposed projects and programs in the United States' part of the basin. The problems and economic development opportunities were examined in this study, conclusions drawn and recommendations made which could serve as a guide to future management and development of the water and related resources of the Souris River basin in Canada.

3.2 Background

In recognition of the water problems in the Souris River basin, the Canada-Saskatchewan Consultative Committee on Water and the Canada-Manitoba Advisory Committee on Water, two federal-provincial committees established under The Canada Water Act set up a Souris River Basin Working Group in November 1970 and charged it with designing a study program for the formulation of a plan for managing the water and related resources of the Canadian portion of the basin. The Working Group reported in June 1972. On October 28, 1974, the Canadian, Manitoba, and Saskatchewan Governments signed the Souris River Basin Study Agreement in Estevan. The Agreement, attached as Appendix 1 and as subsequently modified, called for a report on the study by June 30, 1978.

3.3 Study Goal and Objective

The goal of the Souris River Basin Study was to formulate a plan which would serve as a guide to management and development of the water and related resources of the Souris River Basin in Canada.

Water management and development possibilities were assessed insofar as they would satisfy existing water needs, solve existing problems, and meet foreseeable and long-term future water requirements. Many of the problems and water needs were identified by citizens of the basin through a public involvement program. In the formulation of the plan, due consideration was given to public response to the various water projects considered and to environmental consequences.

The Souris River Basin Study board directed, scheduled and coordinated the study program. The studies and public involvement program concentrated on the main stem of the Souris River where the major problems exist in the basin. The upland areas of the basin and major tributaries such as Long Creek, Moose Mountain Creek, Antler River, Gainsborough Creek, Graham Creek, and Pipestone-Plum Creek were considered in less detail.

The objective of the study as stated in the Agreement was:

> "to carry out an assessment of the water and related resources of the Souris River Basin and of the demands being made and likely to be made upon them, to set objectives relative to the management of these resources in Canada and to develop an appropriate plan to meet these objectives."
>
> Source: Souris Basin Study Report, June, 1978

3.4 Organization

Responsibility for the study rested with the Minister of the Environment for Canada, the Minister of the Environment for Saskatchewan, and the Minister of Mines, Resources and Environmental Management for Manitoba. As specified in the Agreement, the Souris River Basin Study Board was established to direct the study.

The Board consisted of four members, two representing Canada, one representing Manitoba and one representing Saskatchewan. The Board was responsible for the overall direction of the study and for the allocation of the funds provided under the Agreement.

3.5 Planning Objectives

In accordance with the Agreement, the Board established the following planning objectives:

- Provide sufficient water to meet domestic, municipal, industrial, agricultural, recreation, fish and wildlife demands.
- Reduce the potential for property damage, economic and social disruption and threat of injury or loss of life from floods.
- Maintain or improve the water quality.

- Enhance fish and wildlife resources and water-based recreation.
- Ensure that interjurisdictional obligations are met.
- Preserve or enhance environmental quality.
- Preserve or enhance social and economic well-being.
- Maintain or increase agricultural productivity.
- Minimize threat to known archaeological sites.

3.6 Study Program

A study program was developed in accordance with the terms of reference contained in the Agreement. (See schedule "A" attached) The program consisted of nine study sectors:

1. Public Involvement
2. Flood Damage Reduction
3. Water Supply
4. Water Quality
5. Water-related Resources
6. Agriculture
7. Economic Studies
8. Detailed Evaluations
9. Legal, Institutional and Administrative Arrangements

3.7 Public Involvement

Continued efforts were made to involve the public at all stages of the study. Early in the study, the Board met with the public in a series of meetings throughout the basin at which the study program was explained and first-hand information was obtained on the nature and scope of the water requirements and problems within the Souris River basin in Canada.

Five public Task Forces were established representing the area around Weyburn, Estevan, and Carnduff in Saskatchewan and around Melita and Souris in Manitoba. As results of the technical studies became available, they were provided to the Task Forces for review.

The chairmen and four delegates from each Task Force met with the Board to present a set of objectives to the Board for basin-wide water planning.

Prior to finalizing its report, the Board held public meetings in Melita, Carnduff, Estevan, and Weyburn. At those public meetings, the Board presented its tentative findings for purposes of receiving final comments from the Task Forces and the public. The Board considered all comments received in preparing its final report.

3.8 Conclusions and Recommendations

In the examination of alternate plans for meeting water supply needs in the Saskatchewan portion of the basin, it was concluded that the Rafferty Reservoir could not be economically justified without a major industrial demand for water. To fully utilize the existing water supply in the basin, more storage would be required. The Rafferty Reservoir was considered to be a logical choice.

The 1974-78 Souris River Basin Study made a number of important recommendations which related to flood damage reduction, water supply, water quality, and water related resources. The recommendations were based on detailed evaluations carried out and the conclusions reached in the study, the views expressed by the public within the Canadian portion of the basin, and a number of basic water management and sound planning principles.

Foremost, it was inferred that these thirty-seven study recommendations would be implemented to meet the goals and objectives originally set out within the Canada-Manitoba-Saskatchewan Souris River Basin Study Agreement.

It is to be noted that the various government agencies and many of the individuals, as well as residents of the Souris basin, which were intimately involved in the Souris River Basin Study and the earlier advisory committees and working groups, are the same agencies and people who have been involved in advancing the plans for the multiple objective Rafferty-Alameda Project. The overwhelming public support for this project throughout the basin reflects a thorough understanding of their needs and a commitment to achieving the goals and objectives that have been so well enunciated.

The Province of Saskatchewan, through its Crown agencies such as the Saskatchewan Water Corporation, SaskPower, and the Souris Basin Development Authority have built upon the solid foundation provided by many years of study and public involvement. The desire for implementation of the Rafferty-Alameda Project transcends municipal, provincial, and international boundaries as well as political ideologies and differences.

It is important to note that the Rafferty-Alameda project is not an end in itself or a single panacea to solve all of the economic or climatic related uncertainties of southeastern Saskatchewan. Rather, it is a logical step forward and an opportunity for a new beginning for further implementation of water and land management initiatives.

It represents an advance in basin-wide management opportunities to meet the future needs of residents throughout the Souris River watershed, whether in Saskatchewan, Manitoba, or North Dakota.

The Province of Saskatchewan remains committed to advancing and implementing this basic long term water management strategy in an environmentally responsible and fiscally prudent manner. Continued cooperation with and assistance from the Province of Manitoba and Canada is important in achieving the goals and objectives previously agreed to by all.

4.0 ALTERNATIVES TO THE RAFFERTY-ALAMEDA PROJECT

4.1 Earlier Considerations

Solutions to the problems associated with the extreme variability of flows of the Souris have been considered throughout the basin since early settlement in the 1880's. In a region that suffers from cyclical droughts and recurring floods, all levels of governments in Canada and United States have attempted to implement viable and economic solutions. Many previous attempts at water storage were originally designed as single purpose projects; some for municipal water supplies, some, like the Lake Darling reservoir, for waterfowl, some for irrigation, some for domestic or stock watering purposes, and some, like Boundary Dam Reservoir, largely for industrial uses.

The Prairie Farm Rehabilitation Administration has been actively involved in water storage and water management projects to help drought-proof the region for more than fifty years. Many of the smaller reservoirs on the tributaries such as Roughbark Reservoir and Moose Mountain Lake are PFRA projects.

Because of the extreme variability of flows and the size of major flood events, it has been considered necessary to construct very large reservoirs in order to obtain the desired level of flow management and operating flexibility. The Souris River Basin Study, 1974-78, reviewed numerous alternatives to achieve desired levels of flood control.

North Dakota has similarly evaluated a number of alternatives for flood control, including expanding the size of Lake Darling by the raising the height of the dam and constructing the Burlington Dam project, a very costly single purpose scheme.

The Burlington option, which would be a "dry" dam, could have very serious social and environmental consequences, but it is one of the primary alternatives to the Rafferty-Alameda Project. Neither the Burlington Dam nor the raising of Lake Darling option will result in the same water quality and water quantity benefits for Manitoba, as the Rafferty-Alameda proposal.

4.2 SaskPower Alternatives

A number of alternatives were considered by SaskPower to meet future energy demands including purchases from Manitoba Hydro, expansion at Poplar River, hydro from the Churchill River, and elsewhere. Economic evaluations compared the present worth value of total system costs of Shand with Poplar River. This preliminary evaluation found the two options to be nearly equal.

A more detailed analysis found that Shand offered a number of advantages over Poplar River. The Shand option provides the opportunity for SaskPower to meet or exceed the Canadian federal guidelines for air quality. By utilizing higher quality Estevan coal, the Shand Station will require a significantly less expensive and more efficient technology involving lime injection and precipitators than the scrubbers that would be required at Poplar River. Shand could facilitate development of the Rafferty multi-purpose reservoir and eliminate the annual release of Estevan sewage effluent into the Souris River system. In addition, there were more water supply options and the potential for less extensive water treatment at Shand.

The Manitoba Hydro purchase option was much more expensive over the life of the project than either the Poplar River or Shand options.

4.3 Smaller Dams Alternative

The alternative of numerous smaller dams and reservoirs in the upper reaches of the basin was thoroughly analyzed before being rejected in favour of the current Rafferty-Alameda proposal. While numerous small reservoirs appear to have benefits for wildlife and particularly waterfowl, this option does not satisfy any of the long term multiple objectives of the project. Small dams and shallow reservoirs are more costly to construct and maintain. They require more land to achieve the same level of flood protection, they have much more surface area subject to evaporation, are more subject to algae and weed growth, do not satisfy sport fishery or recreation objectives and do not provide reliable municipal or industrial water supplies for Estevan or the Shand Generating Station. In addition, numerous smaller reservoirs are not efficient in terms of water conservation or management for downstream uses such as irrigation. Neither water quality objectives nor apportionment requirements could be balanced with water user demands. This alternative, although often recommended by opponents to the project, has many more disadvantages than advantages in terms of improving the quality of life in southeastern Saskatchewan.

4.4 Multi-Purpose Alternatives for Rafferty-Alameda

With United States willing to contribute $41.1 million (1985 U.S. dollars) towards the Saskatchewan portion of the project, and with SaskPower contributing towards the project for an assured water supply for the Shand thermal electric generating station, the current proposal has been developed.

The multi-purpose objectives of the Rafferty-Alameda project demanded a review and a balancing of competing water demands. As working reservoirs, like most on the prairies, these reservoirs are not designed to be full at all times. In fact, they are less efficient in terms of evaporation losses when they are full because of the greater surface area inundated. Development of an Operating Plan involving major reservoirs and works within the system involved developing a model which would satisfy significant demands placed upon the system. These included downstream apportionment obligations to North Dakota and Manitoba, municipal and industrial needs, irrigation projections, flood control requirements, wildlife, sport fisheries, recreation, and tourism. Numerous alternatives were evaluated before the current proposal was agreed upon. Representatives of Canada and the United States have initialled an Agreement which contains this Operating Plan. (See attachment)

Throughout the detailed project planning and environmental impact assessment and mitigation planning phases, numerous alternatives have been evaluated. Computer model simulations have been evaluated and priorized to ensure that all of the multiple objectives have been most efficiently met and that any necessary trade-offs have been reasonably decided. Initial projected irrigation requirements, for example, were reduced by fifty percent in order to better achieve other water demand objectives.

As evidence of the consideration that went into evaluating various options, both dam sites and locations were adjusted to optimize the efficiencies of the reservoirs and reduce environmental and social impacts of the reservoirs.

5.0 PROJECT DESCRIPTION

5.1 Project Need

The Souris River is dependent upon precipitation for its flows. Therefore, flows in the river vary widely from season to season and from year to year. Approximately 80% of the runoff in the Souris Basin is a result of snow melt. Generally, the Souris River experiences high flows during spring runoff with flows diminishing to zero or near-zero during late summer, fall, and winter.

The Souris River Basin in Saskatchewan is among the most water scarce river basins in the Province. Evidence of this is seen by:

- fewer farms irrigating (an average of 6/1000) as compared to the remainder of the Province (20/1000);
- little water-based recreation;
- frequent municipal water shortages;
- shortage of water for industrial uses; and
- insufficient supply of water for fish and wildlife.

All of these have inhibited economic diversification of this region.

While water shortages have plagued the region, the Souris River also experiences severe flooding problems. Major floods occurred on the Souris River occurred in 1969, 1975, 1976, and 1979. In cumulative terms, these floods, resulted in millions of dollars of damage to personal property and farmland in Saskatchewan, North Dakota, and Manitoba.

As indicated earlier in Section 2.0, Saskatchewan is legally entitled, under the 1959 Interim Measures, to retain 50% of the waters in the Souris River originating in Saskatchewan. Due to the absence of water management structures within the Province, Saskatchewan has only been able to retain, on average 15% of the flow. Currently, there are at least 40 dams in the Souris Basin in the three jurisdictions - 21 of these are owned and operated for wildlife purposes by the United States Fish and Wildlife Service. Within the Province of Saskatchewan, there are 10 dams in the Souris Basin although the majority of these are small and have very limited storage capacity.

In Saskatchewan, the main stem of the Souris River, Long Creek, and Moose Mountain Creek each contribute approximately one-third to the total flow in the river. There is only one noteworthy impoundment on each of these water channels: - Boundary Reservoir on Long Creek, an industrial reservoir used to cool the Boundary Dam Power Station situated south of the City of Estevan; Nickle Lake on the main stem of the Souris River, a reservoir used to supply municipal water for the City of Weyburn; and Moose Mountain Lake on Moose Mountain Creek, a reservoir utilized for stockwatering, irrigation, and recreation. It is only through the creation of large reservoirs on the Souris River and Moose Mountain Creek that Saskatchewan can address both the long term and recent effects of water scarcity with the Souris Basin portion of the province.

5.2 Project Objectives

The Province of Saskatchewan through the Project Proponent, the Souris Basin Development Authority, is proposing to develop a multiple-objective water conservation project in the Souris Basin. The Project will enable us to address the problems inherent with water scarcity in this portion of the Province and to retain as much of the waters of the Souris River to which the Province is entitled to under international agreement. The Rafferty-Alameda Project is a multiple-objective water conservation project with the following objectives:

- recreation	The creation of three new parks including private cottage lots and the development of water based recreation such as swimming, boating, skiing, etc. This will alleviate visitor pressure at Moose Mountain Provincial Park.
- irrigation	Sufficient amounts of water to irrigate up to 12,000 acres 70% of the time (70% is the Alberta irrigation availability standard). There is more irrigatable land within the area than there is water available to irrigate.
- municipal	The Town of Midale and the Hamlet of Hitchcock will draw their supplies of water from the Rafferty Reservoir. These reservoirs will also provide greater regional security of supply for other municipalities.
- wildlife	There will be more habitat for wildlife, based on carrying capacity, after the dams are built than is currently within the areas to be inundated.
- industrial	There will be sufficient supplies of water to cool two 300 mega-watt units of the Shand Power Station. Also, there will be additional economic diversification.
- flood control	There will be flood control in Saskatchewan, Manitoba and protection against the 1 in 100 year flood for Minot, North Dakota.

5.3 Project Components

5.3.1. Rafferty Dam and Reservoir

-Dam located 6 km upstream of Estevan on the Souris River.
-At full supply level (FSL), the reservoir will be 57 km in length and 1.5 km wide at its maximum.
-The dam will be 20 m high.
-At FSL, the elevation of the water will be 550.5 m, with a maximum water depth at the Dam of 15 m.
-Total reservoir storage capacity will be about 440,000 cubic decametres at FSL (1 decametre = 0.8 acre feet).
-1:100 year flood storage at maximum flood level 554 m, 632,000 cubic decametres.

5.3.2. Intermittent Downstream Channel Improvements

-Approximately 16 km of the Souris River channel downstream of Rafferty Dam will be improved to convey small releases of up to 85 cubic metres/second.
-Channel improvements include:
  -constructing a river channel in locations where the present channel is poorly defined;
  -cutting off large meanders in the river channel to improve flow efficiency;
  -removing debris from the channel;
  -improving obstructions crossing the Souris River, such as the Highway 18 crossing.
-Downstream channelization is necessary to provide an adequate flow of water for downstream irrigation and recreational activities.

5.3.3. Boundary Reservoir/Rafferty Reservoir Diversion Channel

-Consists of a two way channel to pass water between the two reservoirs:
  -flow will be by gravity from Boundary to Rafferty and pumped in the opposite direction, when necessary.

-The channel will:
  - -reduce flood peaks downstream of Boundary Dam as a result of uncontrolled flows on Long Creek;
  - -fill Rafferty Reservoir more quickly;
  - -make more efficient use of the runoff;
  - -provide greater certainty of water supply for the Boundary Dam Generating Station.

5.3.4. Alameda Reservoir

- -Located 3 km east of the Town of Alameda on Moose Mountain Creek.
- -The reservoir will be 23 km long, 1.0 km wide at its maximum width.
- -The dam will be 41 m high.
- -At FSL, the elevation of the water will be 562.0 with a maximum water depth of the Dam of 32 m.
- -Total storage capacity will be approximately 105,000 cubic decametres at FSL.
- -1:100 year flood storage at maximum flood level, elevation 567 m, 190,000 cubic decametres.

Total estimated cost for this project before Court induced delay was:

- -$120 million 1985 (Canadian dollars) (+/- 15%) with the U.S. paying $41.1 million U.S. (1985 dollars) or approximately 50% of costs. The cost implications to the project, as a result of the Court induced delay are approximately $2 million per month.

6.0 PROJECT TIMING

The Rafferty-Alameda Project is required on a timely basis for both water management and industrial reasons. The effects of the recent drought, the worst in the last half century, have been particularly acute for communities in the Saskatchewan portion of the Souris River Basin. In the southeastern region of Saskatchewan in 1988, there were approximately 3800 applications for drought assistance including requests from 27 urban centers and 31 rural municipalities. The following are examples:

- -Town of Redvers - ran out of water and was forced to truck potable water;

- -Town of Midale - new well required;

- -Town of Carnduff - new well required;

- -City of Estevan - rationing implemented;

- -City of Weyburn - rationing implemented;

- -Town of Oxbow - rationing implemented;

- -Hamlet of McTaggart - new well required;

In 1988, in the southeastern region of Saskatchewan, approximately 600 dugouts were filled by pumping, requiring 900 miles of temporary pipeline.

Saskatchewan has done hydrologic computer modelling based on recorded flows in the Souris River. One of the scenarios modelled projected what the water levels would be in the Rafferty and Alameda Reservoirs if the dams had been built in 1959.

This scenario took into account:

- -satisfying downstream apportionment obligations;
- -Rafferty and Alameda being constructed in 1959;
- -both 300 mw units at Shand coming on stream in the 1960's;
- -full irrigation (12,000 acres) taking place by the mid-1970's;
- -evaporation losses.

This scenario predicted that Rafferty and Alameda Reservoirs would have filled to overflowing in the 1970's and come through two of the driest decades in recorded history in the Souris Basin - the 1960's and 1980's, and still be 50% full of useable water in 1989. There would be enough water to cool both units at Shand for the next ten years without there being any runoff whatsoever. In addition, there would still be enough water to have full irrigation for another 3 years. These reservoirs would provide a much needed source of water for drought-plagued communities in the southeast part of the Province.

One of the principal industrial benefits from the Rafferty-Alameda project is the development of the Shand Thermal Electric Generating Station (Shand Generating Station). SaskPower requires Shand to meet increased residential, commercial, and industrial demands and to replace aging generating units. Current forecasts indicate that by 1992, demand will likely exceed supply. The Shand Generating Station, which is currently under construction southeast of the City of Estevan, will meet these increased demands for electricity.

Environmentally, the Shand Generating Station is the most advanced thermal electric generating facility in Canada. Burning low sulphur lignite coal and through the use of lime injection, Shand will meet federal emission standards. Effluent from the City of Estevan sewage lagoons, which is at present released twice annually into the Souris River, will be used to help cool the power plant thus resulting in an improvement to the water quality in the Souris River. As well, there will not be any return of warm water from the Shand Generating Station into the Souris River.

7.0 SUSTAINABLE DEVELOPMENT/ENVIRONMENTAL CONSIDERATIONS

The Rafferty-Alameda Water Conservation Project is consistent with the objective of sustainable development, which was articulated by both the Brundtland Commission and the National Task Force on the Environment and Economy. The following aspects of the project are consistent with sustainable development:

-Commitment to no net loss of wildlife habitat resulting from the development of the Project;

-Commitment to no net loss of waterfowl productivity resulting from the development of the Project;

-Use of sewage effluent to cool the Shand Generating Station;

-Fencing of the reservoirs to avoid conflicts between agriculture (stock watering from the reservoirs and recreation) and other users.

-Commitment to establishing Critical Wildlife Habitat on islands within the reservoir and on adjacent lands both upstream and downstream within the Souris Valley.

-Establishment of water quality objectives and a commitment to the establishment of a Water Quality Monitoring Group, with representatives from interested jurisdictions;

-Commitment to the installation of a high level intake in the Alameda Dam; and

-Establishment of ecological reserve(s) to protect rare and endangered plants in the Souris River Valley below the City of Estevan;

The Government of Saskatchewan believes that, with proper planning and long term mitigation, this project will not be detrimental to the environment. The United States Fish and Wildlife Service has been operating at least 21 dams for the benefit of wildlife in the Souris Basin in North Dakota for over 50 years. The Estevan Branch of the Saskatchewan Wildlife Federation and Region 4 of the Saskatchewan Wildlife Federation are the wildlife organizations most directly affected by the Rafferty-Alameda Project. Both of these organizations have passed resolutions indicating they are in favour of the Project's development and the wildlife mitigation plans.

The Rafferty Reservoir will inundate only a small and least environmentally sensitive portion of the Souris River Valley (less than 25% of its total length) in Saskatchewan. Less than 2.5 percent of the area to be inundated presently supports natural tree growth. The Alameda Reservoir will inundate only 15% of the length of the Moose Mountain Creek Valley. The vast majority of both valleys will not be inundated or adversely impacted.

Rafferty-Alameda contains the most comprehensive environmental mitigation program, as a percentage of total project costs, of any major water project in Canadian history (see attached graph).

An 1800 page Environmental Impact Statement for the Saskatchewan portion of the Project was filed in 1987. Subsequent supplementary environmental studies have also been completed. The U.S. Army Corps of Engineers has completed a Draft EIS for the North Dakota portion of the Project. These are the only two jurisdictions within which project elements are being constructed.

Manitoba's Natural Resources Department has completed a report in October, 1988, examining the impacts of the Rafferty-Alameda Project on Manitoba's portion of the Souris Basin. The report concludes that the Rafferty-Alameda option provides the most water quantity-related benefits and the least damage to Manitoba.

The no net loss of habitat will be achieved through the acquisition of 31 quarter sections of marginal cultivated land surrounding the Rafferty Reservoir and 30 quarter sections surrounding the Alameda Reservoir. These areas will be fenced and portions will be seeded back to native grass. Tree plantations will be established on approximately 25 percent of these 61 quarter sections. The reservoirs themselves will provide an exponential increase in fish habitat over what currently exists. The reservoirs will also become important breeding and staging areas for migratory birds.

The majority of the land for wildlife mitigation will be designated as critical wildlife habitat under The Saskatchewan Critical Wildlife Habitat Protection Act.

The three community pastures affected by Rafferty (2 PFRA and 1 Provincial) will be fully mitigated on a carrying unit for carrying unit basis. Suitable lands contiguous to the existing pastures are being acquired. This is a condition of the Saskatchewan environmental approval.

The Province of Saskatchewan has publicly stated that no wetlands will be drained in order to speed the filling of the reservoirs. It has been determined that there are not 40,000 acres of permanent or semi-permanent wetlands within the Souris Basin, which are threatened by the Project as has

been alleged. It would make little sense to attempt to drain existing wetlands to speed the filling of the Rafferty and Alameda Reservoirs because:

-with the large quantity of water these reservoirs can store, the amount of water available in these wetlands is relatively insignificant;

-the channel and evaporation losses in conveying water from these wetlands to the reservoirs would render the concept extremely inefficient;

-cost alone would be prohibitive to dig the required network of canals and ditches;

-most of the "wetlands" are on private property where water must be retained for farming and ranching purposes; and

-many of these "wetlands" only contain water in the wettest of years when Rafferty and Alameda would be either close to full or full and the water is not required.

Considerable interest has been expressed about post-project water quality conditions. The Project Proponent, the Souris Basin Development Authority, has completed a number of studies on post-project water quality conditions both within and outside of Saskatchewan. Generally, it is expected that water quality will be as good or better than current conditions. It is not anticipated that there will be negative water quality effects in either North Dakota or Manitoba directly resulting from the development of the Rafferty-Alameda Project. As the attached correspondence indicates, the relevant jurisdictions have indicated to downstream interests, their commitment to fulfilling their international water quality obligations. (See letters attached in Appendices 9 & 10)

8.0 SOURIS BASIN DEVELOPMENT AUTHORITY RESPONSE TO THE ENVIRONMENT CANADA DRAFT INITIAL ENVIRONMENTAL EVALUATION OF THE RAFFERTY-ALAMEDA DAM PROJECT

8.1 Introduction

On June 2, 1989, Environment Canada issued its Draft Initial Environmental Evaluation of the Rafferty-Alameda Dam Project. In this Draft Evaluation, Environment Canada identified a number of potential impacts and information deficiencies in the Rafferty-Alameda Project. On June 22, 1989, the Souris Basin Development Authority (S.B.D.A.) issued its response to the Environment Canada Draft Initial Environmental Evaluation. Approximately 330 pages in length, the S.B.D.A. response addresses the main areas of concern in the Draft Initial Environmental Evaluation: international water quantity, international water quality, migratory birds, fisheries, federal lands, rare and endangered flora and fauna, and navigable waters.

It is the view of the Souris Basin Development Authority that all significant concerns and information deficiencies identified by Environment Canada, which can jurisdictionally be dealt with, have been addressed. A copy of the S.B.D.A. response to the Draft Initial Environmental Evaluation has been provided both to Environment Canada and to the Chairman of the Environment Canada Rafferty-Alameda Public Meetings. For details, the reader is directed to this report, which is available to the public. The results of the S.B.D.A.'s response to the areas of federal government impact can be summarised as follows:

8.2 Waterfowl Production:

The Souris Basin Development Authority is committed to the principle of no net loss of waterfowl production with respect to the Rafferty/Alameda Project in Saskatchewan. In fact, with the mitigation proposed, there would be a net gain in waterfowl productivity for Saskatchewan. The United States Army Corps of Engineers, in consultation with the United States Fish and Wildlife Service have developed mitigation measures to address project-related impacts in North Dakota. No adverse impacts on Manitoba waterfowl populations are anticipated.

8.3 Lake Darling Fisheries

The Lake Darling fisheries have been developed from the windfall benefit of utilising Saskatchewan's share of the water of the Souris River Basin. Lake Darling is a very shallow reservoir, which already suffers occasional fish kills. Saskatchewan has no authority or responsibility for mitigation efforts in North Dakota. The United States Army Corps of Engineers, in cooperation with the United States Fish and Wildlife Service, have proposed various mitigation options to reduce the negative impacts of Saskatchewan retaining its share of the Souris Basin water.

8.4 Fish Habitat

With proposed mitigation and implementation of fisheries management plans for both reservoirs and the downstream portion of the Souris River, there will be a substantial net gain in productive fish habitat in Saskatchewan. While it is acknowledged that, pending mitigation by North Dakota, there would be some loss of river habitat, the net gains in Saskatchewan will result in an overall net gain in productive fish habitat, and related sport fishing.

8.5 Federal Lands

While approximately 1700 ha of federal community pasture lands would be impacted by the reservoirs, full mitigation will be achieved through the replacement of alternative pasture lands of equal or greater carrying capacity. As a condition of the provincial licence, the Authority will ensure there is no negative impact on community pasture patrons.

8.6 Rare and Endangered Species

8.6.1 Fauna (Wildlife)

The only two species for which potential adverse impacts could result from the project are the Ferruginous Hawk and Baird's Sparrow. Only one Ferruginous Hawk nest will be directly affected by inundation and only 630 ha of foraging habitat related to other nests will be inundated. Over 5100 ha of cultivated land will be converted to grassland as part of the community pasture and wildlife mitigation plan. This will provide substantial new foraging habitat for this species. In addition, six new artificial nesting platforms will be erected.

The conversion of 5100 ha of cultivated cropland into permanent grassland will similarly create much expanded habitat for the Baird's Sparrow. Other project-related benefits are anticipated for Piping Plovers, Whooping Cranes, Loggerhead Shrikes, and prairie long-tailed weasels.

8.6.2 Flora (Plants)

A review of the historical site localities for each of the five nationally significant plant species identified reveals that none are located within the full supply levels of the reservoirs, and therefore, would not be affected by inundation. Eight provincially rare species are found within the reservoir areas, however, all occur elsewhere throughout the Souris River and Moose Mountain Creek Valleys, and in other parts of Saskatchewan.

Downstream of the reservoirs, one nationally significant plant (heavy-fruited sedge) and 12 provincially rare plant species could be affected. Overbank flooding of downstream portions of the reservoir will be reduced due to the project, from a frequency of 1 in 10 to 1 in 50 years, but this flooding will not be eliminated. Elevated water tables due to irrigation weirs and irrigation practices would modify potential impacts. Downstream irrigation development is not expected to have any impact on nationally significant or provincially rare plant species as this development will not include clearing of natural vegetation. A botanical monitoring program is proposed as well as establishment of ecological reserves to protect known locations of rare plant species.

8.7 Navigable Waters

It is the view of the Saskatchewan Government that The Navigable Water Protection Act (Canada) does not apply to the Provincial Crown. The Authority acknowledges that the Rafferty and Alameda Dams will impact on the potential for navigation within those reaches of the water courses; the impacts are not considered to be significant. During periods of low flow, or no flow, neither stream can be considered navigable. Impacts and concerns for public safety will be mitigated through proper design and proper marking of hazards to navigation.

The project does not require a federal license under The Navigable Waters Protection Act (Canada).

8.8 Reduced Downstream Flows

Considerable analyses of the likely impact on flows in North Dakota and Manitoba as a result of this project have been undertaken by the SBDA. Environment Canada (1989) has indicated in the Draft IEE that the data, computer models and general approach used by the SBDA is acceptable.

Both North Dakota and Manitoba will experience reduced flows relative to historic conditions as a result of Saskatchewan using the water to which it is entitled. However, Saskatchewan's use will still be considerably less, on average, than the amount of water that both North Dakota and Manitoba will have access to under the proposed project conditions.

Under the terms of the 1959 Interim Measures, Manitoba is guaranteed a minimum flow during the summer months. Using a computer model to examine the likely change in flows that

could take place with the Rafferty-Alameda Project, the frequency of Manitoba receiving only the minimum flow is estimated to increase by about one year out of thirty, on average.

8.9 International Water Quality

Reservoir releases will impact on downstream water quality. The moderating effects of the reservoirs will generally result in improved quality over that currently experienced under low flow conditions. Under worst conditions and extreme probabilities, earlier projections suggested present North Dakota ammonia nitrogen standards could be exceeded at the international boundary. Using more realistic conditions and recent river study information, the impact is expected to be minimal.

Development of international (transboundary) water quality objectives is supported by Souris Basin Development Authority and is part of the proposed Canada-United States agreement for implementation by April 1, 1990.

Water management programs and operational plans in Saskatchewan will, as much as possible, facilitate the provision of acceptable water quality at the boundary. An additional high level outlet is now being proposed for incorporation into the Alameda Dam design to provide higher quality water to downstream users.

8.10 Mercury in Fish

As is the case with all new reservoirs across the prairies, mercury levels in fish tissue would increase in fish inhabiting the reservoirs and possibly downstream but such increases are anticipated to dissipate with time. The province currently employs monitoring and consumptive guidelines throughout the province in order to protect the public. Levels of mercury in fish are not expected to significantly affect sport fishing and related tourism opportunities.

8.11 Response to the Summary of Information Deficiencies in the Draft Summary Report of Environment Canada's Initial Environmental Evaluation

Environment Canada (1989) identified the need for use of a common data base so that all jurisdictions can evaluate the project on the same terms. The SBDA has provided a considerable amount of information to other jurisdictions and has generally provided analyses based on the 1912 to 1974 period of hydrologic record. The representatives of the various agencies that have been involved to date generally agree that this data base is adequate to evaluate the hydrology of the project.

The SBDA supports the recommendation that it would be advantageous to update the data base as much as possible for future interjurisdictional consultation. Nonetheless, it is also recognized that it is not necessary to update the data base to evaluate the hydrology of the project.

The recommendation by Environment Canada (1989) that updated evaporation data be used has already been tested by the SBDA and the new data were found to increase evaporation estimates by about 2%. Consequently, the updated evaporation data are not considered to have any significant bearing on the project evaluation.

International water quality objectives for the transboundary crossings presently do not exist although impacts can be assessed with respect to historical water quality data. The SBDA supports the formulation of transboundary water quality objectives. The proposed Canada-U.S. Agreement provides for development objectives by April 1, 1990.

The SBDA's EIS did not consider water quality impacts beyond its jurisdictional bounds. Subsequently, preliminary assessments have been undertaken by SBDA related to possible flow alterations at the North Dakota-Manitoba Boundary. The analysis of the present data do not provide any conclusive evidence that, on average flow alterations would cause deteriorated water quality conditions in Manitoba. Modelling, as suggested in the Draft IEE, is being undertaken, and the results will be provided to Environment Canada under separate cover.

The fisheries resources of the Souris River in Manitoba are considered poor. It is highly probable that the substantial fisheries habitat gains associated with the Rafferty-Alameda Project will more than compensate for fisheries resource losses in Manitoba.

A waterfowl mitigation plan has been developed.

The status of significant natural areas, including documentation of rare plant and animal species along the Souris River in North Dakota has been recorded. The status of rare plants in Manitoba have not been well documented.

9.0 BENEFITS OF THE RAFFERTY-ALAMEDA PROJECT

The Rafferty/Alameda Project will:

-enable Saskatchewan to store and use a greater portion of its 50% legal entitlement to the Souris River waters;

-manage flows in the entire river system to reduce the extreme variation between periods of extremely high flows and little or no flows;

-reduce urban, rural and personal damages and losses caused by peak floods, such as in 1976;

-help diversify the economy by strengthening communities, giving assured water supplies;

-provide water to SaskPower for cooling two new 300 MW units of power generation at Shand;

-remove sewage effluent from the Estevan lagoons which is presently released into the Souris River twice yearly;

-improve water quality in the Souris River in Saskatchewan and downstream in most years;

-enable division and storage of above average flows and flood waters from the Long Creek/Boundary Reservoir drainage area for subsequent use from Rafferty;

-ensure improved long term municipal water supplies for communities such as Estevan and Midale;

-enable timely water releases from the reservoirs to meet downstream needs in Saskatchewan, North Dakota, and Manitoba;

-enable establishment and adherence to new water quality objectives at the Saskatchewan/North Dakota and the North Dakota/Manitoba international boundaries;

-enable North Dakota to reduce the incidence of zero flows from North Dakota to Manitoba by fifty percent;

-enable each jurisdiction within the Souris Basin (Manitoba, North Dakota, Saskatchewan) the opportunity to reassess its own priorities for current and future water demands;

-permit 3,238 ha (8,000 acres) of Souris Valley low land irrigation downstream from Rafferty and Alameda Reservoirs to strengthen the farming and ranching industry;

-permit an additional 1,619 ha (4,000 acres) of upland irrigation around the Alameda reservoir;

-create many new water - based recreational opportunities in southeastern Saskatchewan (swimming, boating, sailing, cottaging, camping, picnicking);

-strengthen existing and create new tourism and recreation related services in southeastern Saskatchewan (service stations, restaurants, hotels, motels, souvenir shops, etc.);

-enable improved control of livestock operations involving many hundreds of head of cattle, an existing source of Souris River water quality degradation;

-provide greater fishing opportunities in southeastern Saskatchewan due to the new fisheries that will be developed in both reservoirs;

-create new waterfowl production and staging areas in the Souris Basin;

-improve wildlife habitat for other wildlife species in the region through the extensive wildlife mitigation programs (eg. Piping Plovers, prairie long-tailed weasels). There will be no net loss of wildlife habitat. A net gain is expected;

-create a wealth of new historical and archaeological knowledge about southeastern Saskatchewan due to the extensive archaeological field research program;

-create a number of new ecological reserves to protect rare and endangered flora and fauna;

-create a number of new critical wildlife habitat protected areas to protect habitat for a variety of wildlife species in the Souris Valley;

-create a number of new public reservoir access points to enable the Saskatchewan public and tourists to enjoy the new water bodies, and adjacent public lands;

-create three major public parks; two at Rafferty Reservoir and one at Alameda Reservoir;

-relocate the existing Dr. Mainprize Regional Park three miles northwest, improving and expanding its facilities and services for the public (this is one of the two new public parks at Rafferty.);

-relocate and upgrade the Lutheran Church Bible Camp from its current location south of Halbrite to a new location on the north side of Rafferty Reservoir, south of Macoun;

-replace all community pasture lands impacted by the reservoir to ensure there is no net loss of pasture carrying capacity;

-mitigate all oil field facilities impacted by the reservoir, including relocation of some wells, dyking and flood proofing of other wells and batteries and upgrading and protecting flowage lines and pipelines;

-relocate and upgrade primary grid roads #606 and #707 across the Rafferty Reservoir as well as provide a new highway over the Rafferty Dam connecting highways #18 and #39;

-relocate and upgrade Highway #361 across the Alameda Reservoir as well as provide a new public access to the parklands over the Alameda Dam;

-bring a new awareness to soil and water conservation efforts within the Souris Basin and southeastern Saskatchewan;

-create significant employment opportunities in the Souris Basin, not only during construction and implementation of the project, but subsequently during operation of the project;

-create opportunities for training and employment of New Careers Corporation clientele in carrying out many of the long term mitigation efforts;

-utilize the excellent opportunity to obtain 50% of the project capital costs from United States for this much needed water management project;

-contribute significantly to one of Saskatchewan's prime objectives of diversifying and strengthening the provincial economy;

10.0 PUBLIC CONSULTATION AND PUBLIC RESPONSE TO THE RAFFERTY-ALAMEDA PROJECT

The Rafferty and Alameda Dams have been considered for many years. Historical records show that the Alameda Dam was first proposed as early as 1907 and the Rafferty Dam as early as 1932. Calls for construction of dams and the creation of reservoirs on the Souris River have occurred from area residents throughout this century. Those most affected by the river and its tributaries, namely the people of the Saskatchewan portion of the Basin have demanded that this most precious commodity - water - be managed and controlled. With widely varying flows resulting in equally harsh conditions of drought and flood, the Souris River has been the source of a great deal of study.

Among the most significant studies on the Souris River that have been carried out to date, are:

- 1940 - International Joint Commission Study
- 1955 - International Joint Commission Study
- 1967 - Saskatchewan - Nelson Basin Study
- 1968 - Souris - Red - Rainy Rivers Basin Framework Study (U.S.A.)
- 1969 - Moose Jaw - Souris River Association Study
- 1970 - Souris Basin Working Group
- 1976 - Burlington Dam Study (U.S.A.)
- 1978 - Souris River Basin Study Report
- 1985 - Souris River Flood Study (U.S.A.)
- 1987 - Souris Basin Development Authority EIS Rafferty-Alameda Environmental Impact Statement.
- 1988 - Rafferty-Alameda Board of Inquiry Report

As many of these studies emanated from demands and calls from the people living within the Basin for water management, many of them also incorporated public consultation mechanisms.

It is clear from these studies that there is considerable support for water management in the Souris River Basin. Evidence of this support is seen from a number of examples. The Souris Basin Development Authority, in the context of the preparation of its Environmental Impact Statement and

follow-up project planning, has held over 700 meetings with affected land owners and over 150 meetings with interest groups, municipalities, and the public. These meetings have indicated to the staff of the Authority that the majority of those living within the Saskatchewan portion of the Basin are in favour of the development of the Rafferty-Alameda Project.

A further indication of the support for the Rafferty-Alameda Project can be seen by a poll taken in 1987 by the Souris Basin Support Association, that indicated that approximately 80 percent of the landowners affected by the Rafferty Reservoir were in favour of the Project's development. At Alameda, similar results are seen. A poll taken in 1989, of residents of the Oxbow-Alameda area, indicated that over 90 percent of the adult population in that area also supported the Project.

There are other examples of support for the Rafferty-Alameda Project. Attached are resolutions from municipalities and umbrella organizations through which the Souris River flows. As the attached map graphically illustrates, the overwhelming majority of municipalities, through which the Souris River flows, have indicated that they are in favour of the development of the Rafferty-Alameda Project. Most significant in this regard are the resolutions from organizations in Manitoba (the Souris River Water Commission and the Union of South-Western Manitoba Reeves and Mayors) and from North Dakota, which passed these motions of support after the decision by the Federal Court of Canada on April 10, 1989.

Equally impressive are the expressions of support from signatures on petitions in support of the Rafferty-Alameda Project. To date, in excess of 12,000 signatures have been obtained and are appended. Even more significant is the broad geographical dispersal of those supporting the Project. As the attached map indicates, there is considerable support for the Project outside of the Souris Basin.

Finally, attached are letters of support that the Government of Saskatchewan has received for the Project. All of these, when taken together, indicate outstanding support for the development of the Rafferty-Alameda Water Conservation Project.

11.0 CONCLUSION

The Souris Basin in Saskatchewan is one of the most water scarce regions of the Province. Historically, this region has experienced alternating periods of drought and flooding. Evidence of this in a historical context can be seen from the differing accounts of the conditions in this region in the 19th Century by Palliser and Macoun. More recently, the drought of the 1980's, the worst of the last 50 years, has exacted a harsh toll on area residents.

The nature of the Souris River provides a means of ameliorating the effects of the drought. The task remains to find a method of controlling the flows, which vary widely from season to season and from year to year. The 50 percent of the Souris Basin waters, which originate in Saskatchewan and to which Saskatchewan is legally entitled, will provide protection against the vagaries of drought. To utilize these waters, Saskatchewan must construct reservoirs to store water from the high flow years for use in years of little or no flow. There is a long and successful experience of doing this in the Souris River Basin as there are currently at least 40 smaller dams in Saskatchewan, North Dakota, and Manitoba portions of the Basin.

The Government of Saskatchewan has proposed the Rafferty-Alameda Project, as the means of helping solve the water management problems of the Souris Basin. It has done so with an unprecedented commitment to protection of the environment when compared with any other major water conservation project in Canadian history. Commitments to no net loss of wildlife habitat and no loss of waterfowl productivity are proof of this commitment. Full mitigation of impacts on community pastures is also proposed.

The Government of Saskatchewan has provided its comments on the Environment Canada Draft Initial Environmental Evaluation. Significant impacts and information deficiencies have been addressed. Public support for the development of Rafferty-Alameda is strong throughout the basin in Saskatchewan, North Dakota, and Manitoba. The proponents of Rafferty-Alameda and the public, who support its development, firmly believe it stands the environmental test.

United States Department of the Interior
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IN REPLY REFER TO
FWE
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JUL 1 0 1989

Mr. B. H. Burns
Environment Canada
Twin Atria #2, 2nd Floor
4999-98th Street
Edmonton, Alberta T6B 2X3

Dear Mr. Burns:

We appreciate the opportunity to review the Draft Initial Environmental Evaluation (IEE) for the Rafferty-Alameda Project (Project). Environment Canada is to be commended for the excellent job of producing this document within such a short timeframe. After a careful review, the Fish and Wildlife Service (Service) has several concerns of a general nature as well as specific technical comments.

Uses of National Wildlife Refuges (NWR) in the United States are governed by the National Wildlife Refuge System Administration Act (Act) (16 U.S.C. 668 et seq.). This Act requires that before any use may occur on an NWR the Service must determine that the proposed use is compatible with the purpose for which that refuge was established. If the use is not or cannot be made compatible, the use cannot be permitted. This compatibility requirement drives much of the Service's comments regarding the Project.

It is suggested in the IEE that the fishery at Lake Darling might be salvaged by creating a "fish refuge" by diking areas off and managing them for the fishery. We do not believe this would be compatible with the primary purpose of the refuge which is migratory birds.

In several instances the IEE refers to the mitigation package worked out between the Corps of Engineers (Corps) and the Service. That mitigation is strictly for the impacts due to the added purpose of flood storage at Rafferty-Alameda and using the two refuges for flood control. In previous United States and Canadian documents there is no mitigation proposed to offset the impacts in North Dakota related to Saskatchewan retaining its share of the Souris River flows should that occur. We share the concerns about the Project's impacts that remain unmitigated as they relate to the North American Waterfowl Management Plan. It is understood that the impacts resulting from implementation of the 1959 apportionment are separate from the Corps' flood control project

Water quality is a major concern for the future. The document frequently relates water quality now and in the future to migratory bird use of the two wildlife refuges and speculates that refuge water management determines water quality for Manitoba. Water quality on the two refuges is determined by point and nonpoint sources. These sources include sewage effluent from Minot, Minot Air Force Base, Velva, Towner, and Westhope; agricultural runoff; and, to a much lesser degree, migratory waterfowl. Marshes on the two refuges can and do act as filters to naturally improve water quality. We believe that the system is often so loaded with nutrient-rich water entering the refuges that this natural filtering system is overwhelmed. Future reduction of water supplies with this Project can only exacerbate this situation. The Service agrees that a basinwide study has merit and could help both countries to understand and address water quality and quantity concerns. The International Agreement between Canada and the United States addresses many of these concerns and is a step in the right direction.

The document speculates that water management on the two refuges can be directed and accomplished to alleviate or compensate for many of the Rafferty-Alameda impacts. Both refuges have up-to-date water management plans directed at fulfilling the required purpose of migratory bird management and production. It is doubtful that changes in water management can be made and still meet the legal requirements for compatibility.

Following are specific comments to the Draft Initial Environmental Evaluation.

Page vii - Paragraph 3. The availability of Lake Darling Water for diluting Minot sewage effluent releases has been a historical problem. The potential to do this would be further reduced with the Project.

The last sentence states that water quality will be improved during low-flow periods. Low-flow periods will be more frequent with the Project; the reduced quantity of water will tend to decrease water quality.

Last Paragraph. A carp control structure is planned at J. Clark Salyer NWR. The Service will not provide a fish refuge; available water will be used to offset impacts to waterfowl management.

Page viii - Environmental Impacts - Manitoba - Paragraph 1. The prolonged releases of flood water will impact the National Wildlife Refuges (NWR), as well as Manitoba. The NWR's will have little or no capability to alleviate flooding in Manitoba under these conditions.

Page x - Paragraph 3. There are no federally listed, proposed, or candidate plant species. A list of State rare plant species in North Dakota, from the 1984 Fish and Wildlife Coordination Act report on the Lake Darling project, is enclosed.

4.1.6.3. The city of Minot uses a significant portion of its allotment for drinking water. The treatment facility functions best using a mixture of well water and river water.

Page 4-9. The Minot allotment is primarily for domestic use, plus city parks and recreation. Treated wastewater is released when it meets State health discharge requirements, usually in conjunction with releases from Lake Darling for J. Clark Salyer NWR.

Table 4.3. The purpose for Eaton Dam should be irrigation.

4.2.3. Boundary Reservoir water is used for municipal purposes in Estevan.

5.1. Computer model for North Dakota misrepresented local inflow (this has been corrected, but not in this report).

5.2.1. Since Saskatchewan has consumed water during the 1959-1988 period (see Chapter 4), it is incorrect to say that 101 percent was delivered to North Dakota. Reference should be made to the method used to calculate the flow balance for the year.

5.2.2. Lake Darling is operated to meet purposes authorized in the Executive Order, including migratory waterfowl and as a water supply for J. Clark Salyer NWR. Full drawdown occurs to preserve the dam (especially until spillway modification is complete) and, under Corps' direction, to provide reduction of flood impacts.

5.3.2. (#3). Using 101 percent is misleading due to the apportionment accounting, for that same reason reduction also is misleading.

5.4. Agree that comprehensive plan is needed, plus regular updates.

5.5.1. Need common, updated data base.

5.5.3. Model does need refinement.

6.1.3. Sewage lagoons often remain frozen until after high spring flows have passed. State water quality standards generally cannot be met until after the ice has thawed. In recent years, Minot has often released water until mid- to late June, and algae blooms along the channel in the upstream pools were evident. This enrichment is thought to be partially responsible for botulism outbreaks in waterfowl. Westhope usually releases in May and September.

If agricultural pollution is recognized as being at least as significant in the Souris as it is on a continental basis, it should receive more weight as a cause of water quality problems.

Table 6.2. Discharges from Minot Air Force Base also reach the Souris through a tributary.

6.1.4.1. What scientific evidence shows that Lake Darling and J. Clark Salyer National Wildlife Refuges (NWR) account for increases in turbidity and suspended solids?

The Souris River at Bantry and tributaries to J. Clark Salyer at times have a pH that is quite high.

Figure 6.3. The data for 1986 and 1987 are probably not indicative of the average condition. Flow through the refuge was restricted for part of the summer and special releases were made in late summer and into the fall to combat a botulism problem in 1986. Extremely heavy rainfall in the Willow Creek drainage in 1987 resulted in abnormally high releases during July and August.

6.1.5. (last) Sentence. J. Clark Salyer water quality also is affected by drainage from adjacent farmlands, irrigation return flow from Eaton, and Minot/Westhope wastewater releases, all high in nutrients.

6.2.3.1. The report occasionally refers to operation of Rafferty and Alameda Dams in a conjunctive manner to improve the water quality of the combined release (below the confluence of Moose Mountain Creek with the Souris River). Is there an agreement, or will there be a restriction on the Federal permit, that requires the Project to be operated in that manner?

6.2.3.2. The use period of migratory concentrations of waterfowl is relatively short, and geese and some species of ducks spend a significant portion of this time feeding away from the refuge. Even if migratory flocks do represent a net influx of nutrients, this is more than likely offset by the the nutrient outflow from over 18,000 ducks and tens of thousands of other marsh birds that are raised on refuge marshes each year and move off.

The differences in dissolved phosphorus and nitrogen at Glen Ewen and Coulter do not make it apparent that the refuge is the primary cause.

The Manitoba obligations are the most senior in the stream, coming ahead of all other uses in North Dakota. Water in storage in Lake Darling is not required to be released for other uses, however, other users may be entitled to natural flows depending upon their relative priority.

While it may be true that the quality of the Souris River would be dominately controlled by releases from Lake Darling and the influence of J. Clark Salyer National Wildlife Refuge, it should be pointed out that the reduced quantity of flow resulting from the Canadian Water Supply Project alone will restrict the ability of the Service to manage the refuges, improve water quality, and still maintain its waterfowl management objectives.

The last paragraph does not address other major contributions of nutrients in North Dakota, especially drainage, treated wastewater release, and other sources.

6.2.4.5. Same comments as 6.2.3.2. above.

6.3.1. Reference to modified refuge operation may be inappropriate in that operating a National Wildlife Refuge in a manner incompatible with refuge purposes may not be an acceptable mitigation measure.

6.4.2. Additional mitigation measures could include water supply augmentation in North Dakota, increased apportionment to the United States, and additional storage in the two reservoirs during wet years for release to the United States during dryer years.

6.4.2.2. See above comment.

6.6.1. See above comment.

7. MIGRATORY BIRDS. The discussion should include migratory birds other than ducks and geese.

7.5.2.4. The concentration of waterfowl around the reservoirs will likely be birds that are short-stopped in the area. These birds would concentrate in North Dakota under existing conditions. This will result in a loss of hunting opportunity in North Dakota.

7.5.3. An expected increase in the number of ducks lost to botulism should be discussed in addition to the loss in production.

7.6.1. Mitigation could occur through loss prevention. Additional water could be apportioned to the United States, water supply could be augmented in the United States, or additional storage of water in the reservoirs during wet years could be carried over for delivery in dryer years.

Page 7-11 - Paragraph 1. The area figures for the two NWR's are mislabeled as "wetlands." They should be relabeled "total area" or changed to correct wetland area numbers.

Page 7-20 - Paragraph 2. The maintenance of the present wetland base in North Dakota is not ensured, because Federal laws do not absolutely preclude draining wetlands and no permit is required under the State law for drainage of wetlands with less than an 80-acre watershed. The law provides for a maximum debt of 2,500 wetland acres, not including wetlands for which no permit is required.

Page 7-21 - Last Paragraph. There is an incorrect number on the last line (432 ducks). It should be 4,148 (page 7-19, top).

Page 7-23 - Paragraph 3. The 80 percent value is a worst case estimate for J. Clark Salyer NWR. Average production decline was estimated at up to 40 percent (low-flow analysis). Estimates for Upper Souris National Wildlife Refuge average declines were up to 50 percent. No estimates were made by the Service for the river outside of the NWR's.

8.3.2.4. Dam 357 is being raised to above the 100-year flood. The carp barrier is being designed to function at that level.

8.4.2. It is not likely that carp can be controlled on J. Clark Salyer NWR by imposing winterkill conditions. There are enough areas of deep water and springs in and upstream from the refuge to allow overwintering carp survival, even under extreme low-flow or drawdown conditions. Fish survived 1988-1989 with three pools in drawdown, very little water in the other two pools, and virtually no flow in the river.

The foregoing concerns and comments are those of the U.S. Fish and Wildlife Service and should not necessarily be construed as reflecting an official position of any other agency of the United States Government. We appreciate the opportunity to provide these technical comments. Our technical comments are being provided as a matter of courtesy and are not required as a matter of law or under any formal review process. Please advise if we can be of further service.

Sincerely,

Galen Buterbaugh

GALEN L. BUTERBAUGH
Regional Director

Enclosure

Enclosure

A number of plant species have been identified under the Natural Heritage Program of the North Dakota Parks and Recreation Department as rare or unique in North Dakota. Occurrence of the following species has been documented in the Souris Basin:

Grape Fern	*Botrychium matricariaefolium*
Bog Willow	*Salix pedicellaris*
Brownish Sedge	*Carex brunnescens*
Continental Ladies-tresses	*Spiranthes romanzoffiana*
Cutleaf Evening Primrose	*Oenothera lacinata*
Greenthread	*Thelesperma subnudum*
Hair-like Sedge	*Carex capillaris*
Marsh Fern	*Thelypteris palustris*
Pistillate Sedge	*Carex gynocrates*
Poison Suckleya	*Suckleya suckleyana*
Back's Sedge	*Carex backii*
Richardson's Sedge	*Carex richardsonii*
Short-tailed Rush	*Juncus brevicaudatus*
Sweet Flag	*Acrous americanus*
Waterwort	*Elatine triandra*
Yellow Lady's Slipper	*Cypripedium calceolus*
Bog Bedstraw	*Galium labradoricum*
Buckbean	*Menyanthes trifoliata*
Flat-leaved Bladderwort	*Utricularia intermedia*
Lesser Bladderwort	*Utricularia minor*
Mud Sedge	*Carex limosa*
Wolffia	*Wolffia columbiana*
Few-flowered Spikesedge	*Eleocharis pauciflora*
Clearweed	*Pilea fontana*
Purple Cinquefoil	*Potentilla palustris*
False Cyperus Sedge	*Carex Pseudocyperus*
Delicate Sedge	*Carex leptalea*
Acrid Spearwort	*Ranunculus flammula*
Littleleaf Penstemon	*Penstemon procerus*
Annual Burage	*Ambrosia acanthicarpa*
Bulrush Sedge	*Carex scirpiformis*

The foregoing examples of plants and natural communities, plus large avian diversity, serve to emphasize the high quality of the Souris Valley's resources.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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AUG 3 1989

Ref: 8RA

B. M. Burns, Director General
Western and Northern Region, Environment Canada
Twin Atria #2, 2nd Floor
4999 - 98th Street
Edmonton, Alberta T6B 2X3

RE: Comments on the Rafferty-
Alameda Project Draft Initial
Environmental Evaluation (IEE)

Dear Mr. Burns:

We are writing in response to a request of Environment Canada of July 12, 1989, regarding comments on the Rafferty-Alameda Project Draft Initial Environmental Evaluation. (Letter from R.A. Halliday, Director, Inland Waters Directorate to William Reilly, Administrator, U.S. Environmental Protection Agency.) The U.S. Environmental Protection Agency (USEPA) recognises the desire to provide reservoirs for power plant cooling water and irrigation in Canada and also to provide flood control for the City of Minot, North Dakota. However, the USEPA remains concerned about the cumulative international environmental impacts of the proposed action.

As you may be aware, U.S. agencies have agreed to a draft International Agreement with Canada which provides for certain water quality monitoring to take place at the border to identify whether water quality problems will occur. This monitoring effort should be effective in determining if there is a need to make adjustments to operational aspects of the project. However, the proposed operational plan, as developed by the U.S. and Canada as part of the International Agreement, may not adequately address those environmental conditions, as noted in the IEE, resulting from reduced flow of the Souris River.

The IEE supports the contention that the construction and operation of the Alameda and Rafferty Dams will seriously impair a valued sport fishery and damage two U.S. National Wildlife Refuges as a result of water quality and water quantity impacts. It is anticipated that in about 6 years out of 10, the sport fishery in North Dakota's Lake Darling will be negatively affected due to water quality changes as a result of reduced flow. About 40 percent of the waterfowl production could be lost at J. Clark Salyer and the Upper Souris National Wildlife Refuges also as a result of low flow conditions.

Previously, your office received information from USEPA that water quality modeling results indicate possible exceedances of North Dakota's state water quality standards at the border. Specifically, USEPA predicts that the proposed reservoirs will cause exceedances of the un-ionized ammonia standard once every 1.5 - 5 years. Exceedances are most likely to occur during conditions of low flow. In September 1988, the North Dakota Department of Health and Consolidated Laboratories concurred with those findings.

Since the water quality concerns result from: 1) implementation (for the first time) of the stream flow allocation provisions of the 1959 Interim Measures; 2) seasonal low flows which will result in anoxic conditions; and 3) water quality related problems associated with water commitments to Manitoba, USEPA believes that mitigation is necessary to address these water quality concerns associated with low flow years. USEPA believes it is essential to provide an analysis of low flow operations and flow augmentation opportunities. This effort could be coordinated with the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers, as appropriate, who also have interests in these matters.

USEPA believes a key to successful mitigation of water quality concerns is the incorporation of operational flexibility in the design of both the Rafferty and Alameda Dams. We concur with the IEE when it calls for such operational flexibility through multi-level outlets for both reservoirs. The City of Minot, North Dakota, has agreed to fund an upper level outlet for the proposed Alameda Dam which would reduce the un-ionized ammonia problem. Consistent with the observation made in the IEE for operational flexibility, USEPA strongly supports inclusion of an upper level outlet in the Rafferty Dam to provide water quality mitigation.

USEPA recognizes and embraces the principle of joint Canadian and United States responsibility for bioregional management of trans-boundary areas. As the IEE notes, the U.S. and Canada have agreed under the North American Waterfowl Management Plan to work jointly to restore waterfowl populations to the levels of the 1970s through wetland habitat restoration. According to the IEE, reductions in waterfowl breeding habitat at the U.S. wildlife refuges by 65 to 95 percent could occur in low water years. We concur with the IEE's findings regarding the significance of unmitigated losses to waterfowl arising from the Rafferty-Alameda Project. (See IEE Draft Summary page 25.) We are especially concerned about the project's impacts to wetlands.

It is essential to augment the flow in the Souris River to protect the fishery and wetlands dependent on these flows by providing minimum flows from the Alameda and Rafferty Dams sufficient to protect fishery and wetland values. Implementation of rehabilitative programs which would address this issue should be considered.

USEPA believes the implementation of the project must maintain a strong objective to achieve adequate long term protection of water quality and quantity, and replacement of wetland losses, in order to protect all existing uses provided by the Souris River and its riparian and wetland zones. We offer our technical assistance as appropriate for future discussions and deliberations on this matter. We would be pleased to work with your offices along with the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers on the environmental problems identified in your IEE document. Please contact me at (303) 293-1603 to discuss this matter further.

Sincerely,

James J. Scherer
Regional Administrator

cc: Robert Homme, U.S. Department of State, Washington, D.C.
Governor Sinner, Bismarck, North Dakota
Senator Burdick, Bismarck, North Dakota
Senator Conrad, Bismarck, North Dakota
Representative Dorgan, Bismarck, North Dakota
Galen Buterbaugh, Fish and Wildlife Service, Denver
Louis Kowalski, Corps of Engineers, St. Paul
Jack Beard, Department of the Army, Washington, D.C.
Richard Schemp, City of Minot, Minot, North Dakota

SWC North Dakota State Water Commission

GOVERNOR GEORGE A. SINNER
CHAIRMAN

VERNON FAHY
SECRETARY & STATE ENGINEER

July 7, 1989

Mr. Bev Burns
Director General
Conservation & Protection
Environment Canada, Northern
& Western Regions
Twin Atria #2, Second Floor
4999 98th SE
Edmonton, Alberta T6B 2X3
CANADA

RE: SWC Project #1408

Dear Mr. Burns:

Thank you for the opportunity to review and comment on the Draft Initial Environmental Evaluation prepared by Environment Canada on the Rafferty-Alameda Project and the Draft Summary of that document. Our comments are enclosed. We request that you consider them in your preparation of the Final Initial Environmental Evaluation.

Sincerely,

David A. Sprynczynatyk, P.E.
Acting State Engineer

DAS:JTF:jar
Enclosures

Page vii, Paragraph 2

1. The statement is made that with the project in place "reduced volumes of water would be available for junior water users in North Dakota". In fact, reduced volumes of water would be available for all water users in North Dakota.

2. This paragraph concludes with the sentence "Saskatchewan would have to insure that North Dakota received their entitled water apportionment". North Dakota is confident that Saskatchewan will honor the apportionment measures as it has in the past.

Paragraph 3

1. Flushing will still occur in Lake Darling with high spring flows even though they are managed.

2. Minot sewage releases can under certain conditions be made without flows in the channel.

Paragraph 4

Impacts on the upper Souris and J. Clark Salyer Refuges associated with the flood control portions of this project will be mitigated by the Corps of Engineers. Remaining impacts are associated with Saskatchewan exercising its right to the water resource of the Mouse River. The state of North Dakota views this so called impact as simply the end of an incidental benefit which has existed for several years. The question of whether mitigation is required for the Province of Saskatchewan exercising its rights to the water resource is not of direct concern to North Dakota as long as it is remembered that the decision process for the flood control portion of the project has considered mitigation.

Page ix

So called non comparable data bases are listed as first among significant information deficiencies. The paragraph describing this deficiency concludes that the following sentence. "These data are not required to assess the overall impact of the project but are critical for development of a water management plan". Those who will prepare and operate the management plan are aware of what their information needs are and this is not among them. Since this issue is not required for preparation of a water management plan and is admittedly not required to assess the overall impact of the project, we recommend that it be removed from the list of significant deficiencies.

The fifth item in the list of significant deficiencies states that comprehensive mitigation and monitoring plans for waterfowl production would be required before the project can proceed. It should be noted that this has been addressed at least for the flood control portion of the project.

ge 1-5
The paragraph discussing navigation should include documentation establishing the Sourie River in Saskatchewan as navigable.

The discussion of the international waters issue should note that meticulous attention was paid to this issue in the international development of the flood control project, and that all parties have expressed the intention to abide by the international apportionment measures.

Page 3-7, Paragraph 2.2.3
It should be noted at this point that the international apportionment measures will apply even during the reservoir filling. A certain amount of confusion regarding this point is apparent which has led some to believe that North Dakota's apportionment would be affected by the filling of the reservoirs. This, of course, is not the case and it should be made as clear as possible.

Page 4-3, Paragraph 4.4.1
The last paragraph discusses the role of cities outside the basin serving as consumer shopping and major farm service centers. It states that Bismarck serves this role in North Dakota. This is questionable.

Page 4.9, Section 4.1.6.3
The city of Minot uses its allotment of surface water as much as possible for domestic purposes contrary to what this paragraph says. It does not use its allotment for the dilution of effluent discharges.

Page 4-14
Table 4.3 gives the purpose of the Eaton Dam as water supply. This should be irrigation.

Page 5-2
The first paragraph in that page is an excerpt from the 1959 apportionment measures. The last sentence in that paragraph refers to "the Long Creek Dam referred to in paragraph 12 and 14 above". This is Boundary Dam and since the paragraphs 12 and 14 which describe it are not included this notation should be made.

Page 5-9, Section 5.3.1
Operation Plans - A list of objectives for the operation of the Raferty and Alameda Dams is given. Providing flood control storage should be listed among those objectives.

Page 5-9
The last paragraph on the page concludes with the following sentence "The full level of irrigation development presents a worse case scenario in terms of the water supply available to meet other uses downstream of the project in North Dakota and Manitoba". It must be again noted that North Dakota's appropriation is independent of development of development is Saskatchewan. North Dakota does not expect any more water than in the 1959 measures allow. Additional water such has been received in the past, is viewed as a temporary benefit to be taken advantage of when available. For purposes of planning an

sessment of the project, North Dakota assumes that Saskatchewan will make use of its entire allocation for whatever uses are deemed appropriate in Saskatchewan.

Page 5.1, Section 5
International Water - Hydrology. All discussions in this section should be now be based upon the new modeling simulation which were recently completed.

Page 5-17
The first paragraph on the page, begins with the sentence "Water stored in Lake Darling can be used to augment flows during low flow periods". Water is stored in Lake Darling for use of the Fish and Wildlife Service. This use may or may not include augmenting flows during low flow periods.

Page 5-23
The first paragraph on this page says that "After a project is in place, the United States would deliver to the Manitoba boundary only sufficient water to meet the requirements of the Interim Measures." Although large spills would be less frequent in the future, it is still likely that Manitoba would receive more than the minimum requirement. Particularly in the years in which flood operations occur.

The third paragraph on this page states that the simulations upon which the discussion is based assumes that initial reservoir levels were nearly full in Saskatchewan. The reservoir fill period is irrelevant. Apportionment will be met in any case.

Page 5-23
The last paragraph on the page discusses the distribution of the mean monthly discharge through the year. It should be kept in mind that this distribution can be changed by the operation of the project for beneficial purposes.

Page 5-24, Section 5.4
The section begins with a discussion of the need for comprehensive plan for joint Saskatchewan, North Dakota, Manitoba operation of the project. This discussion should include the fact that such a plan is required by the international agreement and that all parties are planning their participation in this plan.

Section 5.5, Summary
Paragraph one states that many of the data summaries and analysis are for different time periods and calls for a common updated data base to include the most recent date. The hydrologic analyses done to date for the river in Saskatchewan and in North Dakota have been based on the time period from 1912 to 1974. This period of record includes periods of drought and moisture sufficient to test the operation of the project against all likely hydrologic conditions. Therefore it is sufficient for evaluating the effects of the project. From a hydrologic point of view it is unnecessary to extend the record to present.

e recommendations of paragraph 2 have been accomplished. Those paragraph 3 have been accomplished or are underway and as discussed above the recommendation in number 4 is of dubious value.

Page 5-26, Table 5.3
The explanatory information contained in this table is insufficient to indicate the meaning of the numbers displayed.

Page 6-1
The location of the Des Lacs River gauge is not show on the map on page 6-2.

Page 6-3, Section 6.1.3
It should be indicated whether or not this discussion refers to the Mouse River basin as a whole.

The second paragraph of section 6.1.3, concludes with this sentence "Minot discharges have caused impairment to water quality within the reach from Minot to the J. Clark Sayler NWR". The meaning of the word impairment should be given.

Page 6-4
The table of point source discharge in the Souris River basin contains a column labeled "frequency of discharge". The Estevan generating station and Boundary Dam power station contain entries of return cooling water in that column. This entry does not explain the frequency of discharge.

Page 6-5
The second paragraph on this page refers to "the refuge, located on Lake Daring on the Des Lacs River". Lake Darling is not located on the Des Lacs River.

Page 6-41
The third paragraph on this page discusses the different attempt that model simulations of water quality. The word predicted is used several times in this paragraph. Since the conditions tested in these efforts involve different combinations of very rare conditions, it is questionable whether the results could be called predictions.

Page 6-47, Section 6.2.3.2
The last paragraph on this page discusses the frequency of availability in Lake Darling of water for dilution of Minot effluent discharges. It should be kept in mind that the water used to dilute Minot effluent discharges is water that is transferred from Lake Darling to J. Clark Saylor for refuge purposes under normal conditions. This is not water specifically allocated to Minot for this sole purpose as was presumed earlier in this report.

Page 7-22, Section 7.5.3
Third paragraph of this section states that "Waterfowl production during the most severe years of impact would be reduced by an average of about 80 percent". Earlier in the paragraph it is stated that the habitat would be reduced by about 65 to 90 percent throughout the migration and production

riods during the years of most severe impact. The "years of must severe impact" should be defined and frequency of occurrence should be given.

Page 7-23
In the third paragraph on that page, a process is explained by which in estimate of potential losses due to the project of 21,824 ducks annually is arrived at. This process is based upon the assumption of an 80 percent reduction level which in this paragraph is said to be an average figure. On the proceeding page and as noted above, this is the reduction attributed to the "most severe years of impact". If this reduction is actually associated with conditions representing "most severe years" then it is incorrect to compute an annual production loss with that figure. In addition, the mixture of sources of information and techniques represented in the process described in this paragraph appears to be questionable. The conclusion of an annual loss of more ducks than the J. Clark Saylor National Wildlife Refuge produces in a given year seems to call for a more detailed examination of this estimate.

Page 8 - 11
Discussion of Lake Darling, it is stated that the US Fish and Wildlife Service classifies Lake Darling and as a Class 2-C Cool Water Fishery. Bodies of water in North Dakota are classified by the North Dakota State Department of Health and Consolidated Laboratories. This same correction should be applied to on page 8-13 in the first paragraph in the discussion of the Souris River.

Draft Summary, Initial Environmental Evaluation
Any of the points mentioned above in comment on the draft initial environmental evaluation occur also in the summary and should be corrected in both places. However, the following apparently occur only in the draft summary.

Page 19, first paragraph in the second column describes the determination of 50 or 60 percent apportionment. It states "If on October 1st, the level of Lake Darling is below 485.24 meters, Saskatchewan must pass 50 percent of the flow to North Dakota in the following calendar year". It should read Saskatchewan must pass 50 percent of the flow to North Dakota in that year and in the following calendar year.

On Page 43, the significant deficiencies are listed. First among these is the issue of non comparable data bases. As discussed in previous remarks and as admitted in this description, these data are not required to assess the overall impact of the project. Neither are they critical for development of a water management plan. It is recommended that this be removed from the list of significant deficiencies.

The second item in this list discusses the operating criteria and a water management plan. The water management plan is required by the international agreement and preparation is underway in both North Dakota and Saskatchewan. This point therefore should not be considered a deficiency.

o general points should be noted in conclusion. First, many o. the impacts listed in these documents are related to Saskatchewan's ability to store and use the amount of water to which it is entitled under the 1959 apportionment measures. The state of North Dakota recognizes and respects that right and therefore regards the consequences as simply the loss of an incidental benefit and not as impact which must be compensated for.

Second, the prepares of these documents appear to have made great effort to be objective and balanced in their evaluation of the project. It is particularly noted that many of the beneficial effects of the project have been recognized and discussed. This is commendable.

Manitoba
Natural Resources

Boundary Waters Information Office
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Winnipeg, Manitoba,
R3C 0V8.

July 7, 1989

Mr. B. M. Burns,
Director General
Conservation and Protection
Western and Northern Region
Environment Canada
1901 Victoria Avenue
Regina, Sask. S4P 3R4

Dear Mr. Burns:

Re: Draft Initial Environmental Evaluation - Rafferty/Alameda

I am pleased to enclose for your use and consideration 3 copies of Manitoba's Technical Response to Rafferty-Alameda Project Draft Initial Environmental Evaluation.

We trust that you will find the contents of this document useful in your consideration of the proposed Project. If we can provide any further assistance or clarification of our responses please do not hesitate to contact us.

Yours truly,

Bob Clarkson

R. N. Clarkson.

JUL 1989
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ENVIRONMENT
CANADA
REGINA SASK.

GOVERNMENT OF MANITOBA

TECHNICAL RESPONSE TO

RAFFERTY-ALAMEDA PROJECT

DRAFT

INITIAL ENVIRONMENTAL EVALUATION

JULY 7, 1989.

GOVERNMENT OF MANITOBA
TECHNICAL RESPONSES TO
RAFFERTY-ALAMEDA PROJECT
DRAFT INITIAL ENVIRONMENTAL EVALUATION

This technical response is intended to supplement the presentation made to the public meeting in Melita Manitoba on Monday June 26, 1989 by the Honourable Glen Cummings, Manitoba Minister of the Environment.

We wish to commend staff of Environment Canada and its consultants for their efforts in assembling such a large amount of documentation in a relatively short period of time.

Manitoba's comments are not intended to be a critique of the work done in assembling the Draft IEE. They should be considered as a supplemental document expressing Manitoba's point of view on the available information.

1. INTRODUCTION:

1.3 FEDERAL RESPONSIBILITIES

Constitutional Division of Power

It must be recognized that Canada has both domestic and international responsibilities relating to the proposed Project.

The draft IEE identifies a number of these responsibilities. Of primary importance to Manitoba is the recognition of Manitoba's interests as a downstream water user.

International Waters

Canada's obligations include responsibility for ensuring compliance with the Boundary Waters Treaty of 1909; in this case, Manitoba's entitlement to a certain quantity and quality of Souris River water from North Dakota.

A critical factor for Manitoba is recognition of the "Interim" nature of the 1959 Interim Measures. The Hon. Glen Cummings emphasised this fact in his presentation and gave notice of Manitoba's intent to review its water needs and, if appropriate to request the International Joint Commission to reopen the matter of water apportionment at the North Dakota/Manitoba boundary.

The guaranteed volume of Souris River water to Manitoba, except during periods of severe drought, represents only 4% of the mean natural flow of the Souris River at the Westhope crossing. Manitoba questions whether or not such a small allocation fulfils the intent of the Boundary Waters Treaty regarding the equitable sharing of the waters flowing across the boundary. Manitoba, however, also recognizes that it is its responsibility to clearly define its needs and to present its case to the International Joint Commission if it desires to have the "1959 Interim Measures" amended. In assessing its requirements and presenting its position to the IJC Manitoba would expect the full participation, cooperation and support of the Government of Canada.

In order to ensure compliance with the Boundary Water Treaty Canada also has a responsibility to ensure that the requirements of Article IV of the Treaty relating to the maintenance of water quality is met at both the Saskatchewan/North Dakota and the North Dakota/Manitoba boundaries.

1.4 The Environmental Assessment and Review Process.

From the information presented in the Draft IEE together with the "Information Deficiencies" noted it must be concluded that the potential for adverse environmental effects particularly in Manitoba and their mitigability are unknown. Further study and a more detailed assessment are required. It has also become apparent that the potential environmental effects are significant and that there is major public concern in respect to the project. For these reasons Manitoba has requested that the Federal Minister of the Environment refer the project to Panel as stipulated by the EARP Guidelines Order.

Manitoba acknowledges that some of the "Information Deficiencies" may have been addressed during the Public Meeting process and in other submissions, however, it does not believe that this will be sufficient to satisfy public concern nor to fully address all potential adverse environmental effects of the Project.

4. PROJECT SETTING

4.1.6 Water Use

4.1.6. Manitoba

While the Town of Souris is the only municipality to draw its water supply directly from the Souris River, the Town of Melita and the Village of Wawanesa draw their water from wells near the river which are dependant on the Souris River for recharge. Total annual usage along the Souris River in Manitoba including unlicensed irrigation, municipal withdrawals, stockwatering and dugout filling is estimated at between 2530 and 3150 dam³. Channel losses in dry years are very significant. In the summer of 1988 flows at Westhope exceeded 20 cfs (0.566 m³/s) all summer totalling 14,000 acre feet (17,000 dam³), but flows at Wawanesa were zero for 47 days.

5. INTERNATIONAL WATERS - HYDROLOGY

In assessing the impacts of the proposed Project the Draft IEE compares natural flows and post-Project flows. Although this may be valid for the Saskatchewan portion of the basin, it is misleading for the assessment of impacts in Manitoba. Because of significant changes in operating procedures for the U. S. Fish and Wildlife Service (USFWS) refuges in North Dakota, the recorded data is not representative of flows that would occur today under similar runoff conditions. Therefore, if simulated post-Project flows are compared to historic flows it is not possible to determine differences caused by the Project and differences caused by changes in USFWS operation. To get around this problem the Burlington Dam Task Force and the subsequent Lake Darling Task Force decided that the basis for comparison should be simulated pre-Project flows, in which the only change would be the presence or absence of the project under study. (ref. "Review of the Effects on Canada of Improvement Proposed for Flood Control in the United States, Report III", page 18).

This problem is particularly evident in Figures 6.10a to 6.10d on pages 6-54 to 6-57. The differences between monthly simulated historic flows and the recorded flows for these years are greater than the differences between historic and post-Project flows. The figures used in the Draft IEE are therefore misleading and the observations presented in section 6.2.4.1 and in the second to last paragraph on page 6-60 are at best suspect. Furthermore the "recorded" flows for 1937 do not match the CWRB data for 1937 and in 1922 there were no recorded flows at Westhope. The source of the 1922 "recorded" flows data is unknown.

5.3.4. MANITOBA

The critical period for Manitoba would be, as stated in the Draft IEE, during low flow years. The occasions in the past when flows into Manitoba have been limited to 20 cfs (0.566m³/s) during the period June to October

inclusive have not been extensive. The operation of the Project would exert pressure within North Dakota to retain as much water as possible thus resulting in an increase in the occurrence of such limited flows. Although it is stated on page 5-23 that stream flows of a least 0.566m³/s would be maintained from June through October for the entire period from 1912 to 1974, in fact in some of those years flows would be reduced in accordance with the severe drought criteria. Unfortunately the computer model was unable to simulate this feature. Manitoba's analysis indicates that, with the Project in place over the period of simulation, flows could have been reduced below the 0.566m³/s minimum in as many as 12 years. With simulated present operations the drought criteria could have been applied in five years.

A review of the impacts in Manitoba of reduction in flood peaks and the subsequent release of the water impounded indicates that flood peaks will be reduced, however, in nearly all years there would be reduced summer flooding rather than extended flooding. This misconception arises from a perception of how often excess flood flows will have to be "dumped" from the reservoirs. In fact significant dumping of water will seldom happen as the flow simulations show. Even with the 100 year flood the simulations show that without the Project in place flows at Westhope would remain at or above 500 cfs (14 m³/s) until the end of September. With the project in place this 500 cfs would extend throughout the winter. With an extreme event the flooding of some pasture lands just north of the International Boundary would extend into the winter.

The primary water quantity concerns do not relate to flood control and releases but to reduced flows particularly in low flow years.

The contents of Figures 5.11 and 5.15 have been interchanged.

Tables 5.1 and 5.2 give percent of time less than whereas the duration curves in Figures 5.11 and 5.15 show percent of time greater than. It would be useful if the tables and figures were consistent

The last paragraph on page 5-18 refers to Figures 5.12 and 5.13 as showing flows under the 50/50 and 60/40 delivery options. The Figures however actually show flood flows for the years 1969 and 1975.

Table 5.3 contains an error which originated in the source document. Gross Damages, Urban areas, Average Annual 1936-1987 should read $315, rather than $4,789.

The simulations used in the Draft IEE are based on flow simulation run C51A. This run generated average flows at Sherwood similar in magnitude to previous runs viewed by Manitoba, however, average flows at Westhope are indicated at 15 to 20 percent higher. For example, the average volume at Westhope for run C51 is 141,800 dam3. For run C51A the average is 170,300 dam^3. An explanation of this discrepancy is required.

The attached Tables 1 to 3 list files subsequently received for simulated baseline condition for Sherwood, Lake Darling and Westhope (Run J55A). This run utilizes the latest PFRA evaporation files. Tables 4 to 6 give the data for post-Project conditions. This data was then run through a program created by Manitoba to simulate the application of the Severe Drought criteria. The resulting modified files for Lake Darling and Westhope are given in Table 7 and 8 for baseline conditions and in Table 9 and 10 for post-Project flows. The data in these last four tables therefore recognize drought conditions, latest PFRA evaporation files, further changes in the simulation of North Dakota refuge operation and recently updated capacity curves for the J. Clark Salyer Refuges. The only remaining shortcoming is that the data does not extend beyond 1974.

The severe drought criteria in the 1959 Interim Measures for flow apportionment on the Souris River permits North Dakota to reduce flows passed Manitoba below 20 cfs ($0.566 m^3/s$) during periods of severe drought. This has been defined by the International Souris Board of Control, as a period when the combined storage in Lake Darling and in the five lower refuges drops below 54,000 acre-feet. The severe drought condition would then continue until the combined storage exceeds 57,000 acre feet. To simulate this, the adjustment routine used in developing these tables uses a storage of 40,000 acre feet on Lake Darling as a proxy for the 54,000 acre-foot trigger. When the storage on Lake Darling drops below this value, the routine reduces the flow at Westhope to 10 cfs and adds that volume to Lake Darling. This continues until Lake Darling recovers. Once levels have recovered on Lake Darling the total "hold back" volume that

has been applied to Lake Darling is then transferred to April to October Westhope flows at a rate of one-fourteenth of the volume each month. Although simulating the actual severe drought criteria into the model would be preferred, Manitoba expects that the resulting flows at Westhope and levels on Lake Darling would be very similar to those given in Tables 7 to 10.

Figures 1 and 2 compare the latest simulations for historic and post-Project average flows with the previous flow simulations. Although the average annual flows are very similar, the monthly patterns are altered somewhat. The previous simulations showed higher October, November and January flows than the later simulations. This resulted from an exaggerated simulation, in the previous runs, of the fall and winter drawdowns of the J. Clark Salyer Refuge pools in North Dakota. The lower spring flows in the previous simulations result from the refilling of those pools. The latest runs show a pattern much closer to flow patterns experienced over the past few years. The October flow increase arises from the fall drawdown of the refuge pools, but the total drawdown volumes are considerably less than previously simulated.

Subject to the preceding discussions it would appear that these latest flow simulations are about as accurate as can be expected using existing available data. It would be desirable if the flows could be extended beyond 1974. Existing data provides a reasonable basis on which to base an assessment of the Project, it however does not provide the up to date data required to properly develop a coordinated operating and management plan for the Souris River.

Future Souris River flows will continue to be of concern to Saskatchewan, North Dakota and Manitoba. Present forecasts generally predict reduced future flows in prairie rivers. The utilization of available post 1974 data to extend simulations of hydrological trends and forecasts would assist in developing operating and management plans for the Souris River.

EFFECT OF THE PROJECT ON FLOW REGIME.

The following effects on flows to Manitoba are indicated by the latest available data:

Figure 3 shows the average monthly flows for the period of simulation for pre-Project and post-Project conditions. The monthly changes are similar to previous flow comparisons in that spring average flows are lower and summer averages are similar or higher. However in these simulations the summer flows are not increased as much as previous simulations indicated. In fact, now only August shows a slight increase. Based on these simulations, then, we may assume that summer flows after the Project is in place would remain the same as they are now.

Figures 4 to 7 show duration curves of monthly flows for four seasons: all year, June to October, November to March and April to May. The full year plot shows that flows up to 30 cfs (.85m^3/s) will occur at about the same frequency once the project is in place. The occurrence of monthly flows less than 100 cfs (2.83m^3) will be increased from 70 percent of the time to 72 percent of the time and the occurrence of flows less than 500 cfs (14.16m^3/s) will increase from 94 to 96 percent of the time.

Figure 5 which shows flows during the apportionment period of June to October shows that the occurrence of 10 cfs (.283m^3/s) flows will increase from four percent of the time to seven percent. Flows at or below 20 cfs (.566m^3/s) will increase from 45 percent of the time to 47 percent of the time. Flows less than or equal to 200 cfs (5.66m^3/s) will occur at or about the same frequency of 72 percent of the time. Figure 5 indicates little change in winter flow patterns and Figure 6 shows a significant decrease in spring flows.

The increase in the occurrence of 10 cfs (.283m^3/s) shown in Figure 5 is an indication of an increased occurrence of the severe drought criteria. A review of Table 8 indicates that a rigorous application of the criteria would have permitted North Dakota to reduce the minimum flow below 20 cfs (.566m^3/s) in five years under baseline conditions. These years would have been 1932, 1935, 1937, 1938 and 1961. Table 10 indicates that with the project in place, the drought criteria could have been applied in seven years: 1931, 1932, 1934, 1935, 1937, 1938 and 1961.

Figures 6.10a to 6.10d of the Draft IEE compared simulated with recorded flows for four years: 1922, 1937, 1955 and 1965. Figures 8 to 11 attached compare the baseline and post project data for these same four years. A comparison of these sets of figures clearly demonstrates the problem with using recorded data as baseline data. Such comparison also illustrates the impact that the operation of the U. S. Fish and Wildlife refuges has on flows entering Manitoba.

6. INTERNATIONAL WATERS - WATER QUALITY

6.1.2. INFORMATION SOURCES AND DATA HANDLING

Reference is made to the fact that existing water quality is compared to applicable standards, objectives and guidelines within the affected jurisdictions. In order to avoid the potential for confusion, Manitoba's objectives should be cited as "Manitoba Surface Water Quality Objectives (version July 1988)". The reference should then be included at the end of the document in a similar manner as the CCREM guidelines (i.e. CCREM 1987).

6.1.4.7 BIOLOGY

A description of the bacteriological quality is given at both the Saskatchewan/North Dakota and North Dakota/Manitoba boundaries. The existing quality is further compared to Saskatchewan objectives, North Dakota standards and the CCREM guidelines. Manitoba also has objectives for bacteriological organisms for the protection of a number of water uses. Consequently, the existing quality should also be compared to Manitoba's objectives for fecal coliform organisms.

6.1.5 OVERVIEW STATEMENT

Table 6.9 EXCEEDANCES OF GUIDELINE, OBJECTIVES AND STANDARDS

This table provides an extremely useful summary of the existing water quality at both International crossings of the Souris River in comparison to the use related objectives, guidelines and standards within each jurisdiction. However, the table should be carefully reviewed for accuracy, since a number of discrepancies were observed. For example, the CCREM guideline for ammonia, although expressed as total ammonia, is more restrictive than Manitoba's objective for free ammonia. Therefore, it is not possible that there can be a greater number of exceedances of the Manitoba objective than of the CCREM guideline, as shown in this table.

Manitoba's most restrictive objective for iron is 0.3 mg/L, not 0.03 mg/L as shown. The number of exceedances will have to be re-calculated accordingly.

As mentioned above, Manitoba does have an objective for fecal coliform bacteria. This information should be included.

Manitoba's objective for lead for the protection of aquatic life is more restrictive than the lead objective cited for the protection of drinking water. The aquatic life objective should therefore be included. This would also make the comparison congruent with the CCREM guidelines.

The North Dakota standard for mercury in water is listed as 0.2 ug/L, but is referenced as 0.012 ug/L in **SECTION 6.1.4.5 METALS.** The correct standard for mercury in water should be used within this table.

Manitoba's objective for phenols is more restrictive for the protection of aquatic life (1.0 ug/L) than for the protection of drinking water (0.002 mg/L). The objective of 1.0 ug/L should be used within this table. This change would also make the comparison congruent with the CCREM guidelines.

The Manitoba objective cited for sodium (20 mg/L) is applicable only to water used for greenhouse irrigation. It would be more appropriate to use the Manitoba objective for sodium of 6 SAR, applicable for the protection of field crop irrigation.

Manitoba's objective for total dissolved solids should be cited. The Manitoba objective for TDS for the protection of drinking water is 500 mg/L and TDS objective (listed in "Manitoba Surface Water Quality Objectives (version July 1988)" as filterable residue) for the protection of field crop irrigation is 1050 mg/L.

6.2.2 SASKATCHEWAN

6.2.2.1 RESERVOIRS

Dissolved Solids

Information is presented within this section concerning the results of modelling TDS concentrations conducted by Environment Canada. However, insufficient information is presented on the boundary conditions used within the model to determine whether or not it is appropriate. In any case, the discussion of the model results are contradictory. For example, the model predicts that maximum TDS concentrations would have been

approximately 1300 mg/l had Rafferty Reservoir started to fill in 1912. When compared with the TDS objective for the protection of drinking water supplies of 500 mg/L, it is apparent that an exceedance would have occurred. Even by 1953 when FSL would first be achieved, TDS concentrations would still remain at 545 mg/L, then would have increased further to 704 mg/l by 1988. However, later in this section it is stated that "Water quality in the Rafferty Reservoir would be suitable for municipal water supply and most agricultural uses, such as irrigation for wheat, barley and certain forage crops, and for livestock watering." This statement should be codified to incorporate the information provided by the modelling exercise, that is, a number of water uses would be impaired, had the reservoir started to fill in 1912.

6.2.4.5 NORTH DAKOTA WATER MANAGEMENT-INDUCED EFFECTS

A minor wording change should be made to this section to indicate that the most important consideration to Manitoba with respect to impacts on water quality is the collective effects of both the Project and the works within the United States in response to Rafferty and Alameda. This section does not provide an adequate description of the water management induced effects by the State of North Dakota. However, it is recognized that this has been identified as an information deficiency in later sections with the Draft IEE.

6.4 MITIGATION OF PROJECT IMPACTS

It is stated in the first paragraph that most of the water quality impairments could be ameliorated with the mitigation activities suggested. This paragraph also refers to "the mitigation requirements described below", however, the actual mitigation measures are described by language such as "should develop", "would facilitate", "should be considered", "consideration could include" etc.

It is apparent that a much greater amount of detail is required on each mitigation activity suggested before it can be determined whether or not such activities will, in fact, mitigate specific water quality impacts. Mitigation measures that are to be adopted must be clearly defined and imposed prior to the issuance of a licence.

6.4.1 SASKATCHEWAN

Mitigation measure #1 is very similar to #6. Consideration should be given to combining these two into a single mitigation activity. Mitigation measures #2, #3, #4, #5, and #6 should be included in one detailed, comprehensive water quality management plan. Reference is made to such a plan at various places within the Draft IEE (e.g. page 6 28, first paragraph; page 6-38, third paragraph; page 6-39, third paragraph; and page 6-41, first paragraph).

The comprehensive water quality management plan must address such questions as what are the benchmarks or criteria that will trigger management action, what is the management action, what other water uses or other management options may take priority over water quality mitigation, to what extent will the management action be successful in mitigating impaired water quality, etc?

Mitigation measures should be included in one comprehensive monitoring plan, complete with benchmarks or criteria applicable within Rafferty and Alameda that will trigger specific actions identified in the water quality management plan mentioned above. Further, if the mitigation measures are completely successful, as indicated in the opening paragraph to this section, it would not appear necessary to require an "early warning" system, as recommended in mitigation measure #8.

It should be noted that mitigation measure #9 should not be too difficult to negotiate since all agencies involved presently have very similar objectives, guidelines or standards for the major parameters or concern. Also, it does not appear appropriate to have the Proponent involved during the International negotiation phase of the transboundary water quality objectives. Determining the International water quality objectives required to protect each jurisdictions' water uses is the sole responsibility of the water quality management agencies within each jurisdiction along with representatives of the two federal governments, not with the Project Proponent. Once such objectives have been negotiated, it would then be appropriate to discuss them fully with the Proponent. This would ensure that the Proponent has all the necessary mitigation measures, etc., in place such that the negotiated objectives will not be

exceeded by the Proponents' actions.

6.4.2 NORTH DAKOTA

Mitigation measure #2 must be fully expanded to include the development of a management plan for all works in North Dakota that will minimize adverse effects on Manitoba. It is not sufficient to merely state that "A modified operation plan for J. Clark Salyer NWR may minimize adverse effects."

6.4.3 MANITOBA

Mitigation measure #1 suggests that the communities of Melita, Hartney, Coulter and Souris may have to expand sewage lagoon capacities or upgrade sewage treatment facilities in order to maintain adequate water quality in the Souris River under the reduced post-project flow regime. It should also be stated that, if expansion or upgrading is required costs should be borne by the Proponents.

6.6 INFORMATION DEFICIENCIES

6.6.1 INFORMATION DEFICIENCIES OF HIGH SIGNIFICANCE

It is not clear why the lack of International transboundary water quality objectives has been identified as being of high significance. While important, the major deficiencies result from lack of attempts to predict water quality impacts. All jurisdictions involved have in place objectives, standards or guidelines that are relatively similar for the major parameters of concern. Therefore, high quality information is presently available against which impacts can be measured.

OPERATIONAL PLAN OF THE NATIONAL WILDLIFE REFUGES

As mentioned previously, language must be chosen that compels the Proponent to complete certain tasks. Therefore, an operational plan of the National Wildlife Refuges in North Dakota must be developed, rather that "should be presented to all agencies".

6.6.3 INFORMATION DEFICIENCIES OF LOW SIGNIFICANCE

The question concerning the use of ground water pumping to augment water in both Rafferty and Alameda must, as the Draft IEE states, be clarified. The use of ground water to augment supply in Rafferty or Alameda reservoirs would be of major significance. All water quality predictions made to the present would have to be re-done. Consequently, this is a major uncertainty and should be identified under 6.6.1 **INFORMATION DEFICIENCIES OF HIGH SIGNIFICANCE.** If the possibility exists that ground water may be used in the future to augment Rafferty and/or Alameda, all water quality predictions must be re-calculated to include this scenario. If this possibility remains as an unknown, then should a licence be issued for the Project. it must contain a clause prohibiting the use of ground water pumping to augment the reservoirs.

SUMMARY OF MANITOBA'S MAJOR CONCERNS REGARDING WATER QUALITY IMPACTS FROM THE PROJECT.

(1) Information deficiencies of major concern to Manitoba include the lack of a thorough, scientifically credible analysis which predicts the impacts on all water quality parameters at the North Dakota/Manitoba boundary, considering the collective effects of both Rafferty and Alameda reservoirs and the water management responses in North Dakota to the impacts of Rafferty and Alameda reservoirs.

(2) Numerous references are made to the fact that water quality impacts may be mitigated by appropriate water quality management plans. Such water quality management plans have not as yet been developed. Without such a plan to review it is not possible to determine whether or not they will be effective as suggested as suggested in the draft IEE. These plans must include benchmarks or criteria that will trigger specific actions; the extent to which such actions will be successful; the extent to which other competing water uses may interfere with the water quality management plan, etc.

Once the management plan is developed, Manitoba must have sufficient opportunity to review and provide comments prior to final approval to proceed with the proposed Project.

(3) It is imperative that augmentation of water in Rafferty and/or Alameda reservoirs from other sources such as ground water pumping either be fully assessed or categorically excluded. It is inconsistent with the goals of the Federal Environmental Assessment and Review Process to postpone addressing of this concern since key development decisions may have been made which precluding other reasonable alternatives.

7. MIGRATORY BIRDS

7.1 INTRODUCTION

While available data sources have been assembled and utilized in the preparation of this section of the Draft IEE none of the available information actually relates to the immediate area of the proposed reservoirs or the regions downstream that might be impacted by the dams. Information collected in 1988 during the worst drought in recent history could be misleading.

Reservoirs - An examination of the data presented indicates that the Draft IEE provides a reasonable estimate of the productivity of the reservoir areas in an unmanaged condition. The report however does not give consideration to water level management and periodicity of flows which could be very important to a realistic examination of the waterfowl productivity of the reservoirs.

Some of the data included is from Ducks Unlimited Project areas which would include some upland or island habitat development of improved duck production.

Based on knowledge from other reservoirs with similar objectives, (flood control and irrigation), water levels tend to fluctuate rather wildly, preventing establishment of sufficient aquatic emergents to provide adequate waterfowl habitat. Expectations of waterfowl production should thus be on the low side. Manitoba would estimate that the loss of waterfowl production through habitat inundation is probably close to the 4,200 birds predicted in the draft IEE. It has been argued that similar reservoirs produce substantial numbers of ducks, however, many of the reservoirs used for comparison purposes are managed by conservation organizations specifically for wildlife purposes. A comparison can not be made between the proposed reservoirs and water bodies that are managed principally for waterfowl production purposes.

Mitigation - All jurisdictions should consider legislation or implement policy to ensure that drainage of wetlands does not occur in the Souris River Basin. The acre for acre "no-net-loss" policy as instituted in North Dakota constitutes a good model.

The mitigation package prepared by the Souris Basin Development Authority should be promptly implemented with all costs being a mandatory part of the cost of the Project.

Drainage Impacts - A legitimate concern has been expressed that the intensification of agricultural pressures through use of water for irrigation could increase drainage in the area. While it is recognized that a commitment has been made to ensure no increase in such action Manitoba would suggest that it may be necessary for legislative action to be taken to ensure no net loss in wetlands.

8. FISH AND FISH HABITAT

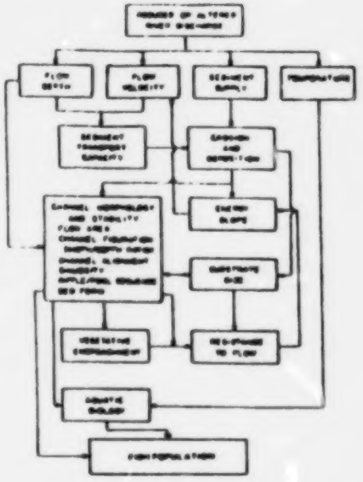
A matter that should be identified as an "Information Deficiency" in the Draft IEE is the significance of Lake Darling and its fish populations to the downstream reaches of the Souris River in both North Dakota and Manitoba. Since dams on the Souris River essentially preclude upstream fish movements in most years, recruitment to fish populations in the system is dependent primarily on upstream sources. Under existing conditions, Lake Darling may be responsible in part for the continued presence of fish population in the J. Clark Salyer refuges and the upper Souris River in Manitoba. The report notes that after the proposed Project is in place, Lake Darling will be less suitable as fish habitat. Consequently, fish populations in the Souris River below Lake Darling will be diminished in the long term.

Late winter draw downs required because of impending flood conditions can be expected to result in fish kills. It should be further added that circumstances which necessitate winter drawdowns are the same conditions which exacerbate winterkill conditions. Winterkills typically occur during winters of excessive snowfalls. Heavy snow covers prevent sunlight from penetrating and creating photosynthesis and oxygen generation under the ice.

Winter spilling will also result in the high opacity of ice, which will further aggravate winterkill conditions. This condition could be alleviated by the maintenance of a winter flow sufficient to ensure the passage of water should further drawdowns be required from the reservoirs.

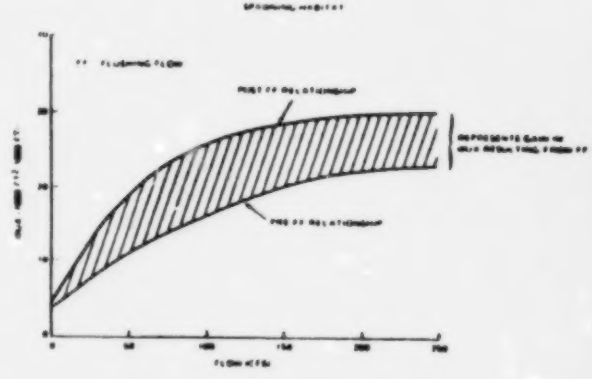
Alternatives in Regulated River Management

Figure 1



Effects of altered flow regimes on hydraulic parameters associated with biological components. (Modified from O'Brien, J. S. Hydraulic and Sediment Transport Investigation, Yampa River, Dinosaur National Monument. WRFSL Rep. 1984 818.)

Figure 2



Hypothetical relationship between weighted usable area (WUA) and streamflow before and after implementation of a flushing flow. Area between the curves represents gain in habitat. (Modified from Reiser, D. W., Ramey, M. P. and Lambert, T. R. Review of Flushing Flow Requirements in Regulated Streams. Department of Engineering Research, Pacific Gas and Electric Company, San Ramon, CA 1985.)

From: Reiser et al. 1989.

Changes in flow regime and magnitude will result in changes to the stream dynamics and eventually reduce the amount of usable fish habitat. Periodic large flows, or flushing, in rivers are beneficial to fish habitat. Changes in flows will result in downstream changes in the stream channel. Flows for channel maintenance are needed when vegetative encroachment begins to affect flow transport capacity and channel shape, thus predisposing the reach to further encroachment and sedimentation.

On page B-34 of the report (para c) the use of mechanical aerators is discussed in respect to Lake Darling. We would draw to your attention the use in Minnesota and Manitoba of emergency pumps and baffle aeration to reduce winterkills caused by reduced water oxygen levels. Such systems create almost no open water and are thus not an influence on migratory birds.

The use of aeration through spray pipe release and/or a series of baffles and lower head dams below each of the refuges in North Dakota could also assist in the improvement of water quality entering Manitoba particularly when it is necessary to dump anoxic waters because of impending flood conditions. The potential to aerate below J. Clark Salyer Refuge dams will be improved through the upgrading of the refuge dams. This opportunity should not be overlooked. Such aeration would also provide general benefits in respect to the water quality of the Souris River entering Manitoba.

10. RARE AND ENDANGERED SPECIES

10.3 Rare, Endangered, and Threatened Bird and Mammal Species

10.3.1.2 **Loggerhead Shrikes** are rarely found in the Souris River Basin in Manitoba. They are more common in swales and windbreaks west of the Souris River.

10.3.1.3 **The Great Grey Owl** a rare species of the boreal forest is rarely found the Souris River valley of Manitoba.

10.3.1.5 **The Piping Plover** has been sighted at Whitewater Lake in recent years and they may occur on larger potholes and marshes in the general area. During 1988 and 1989 Whitewater Lake has been mostly dry and no sightings have been reported.

10.3.1.7 Two pairs of **Burrowing Owls** nested in Manitoba along the Souris River in 1987 (in the broad grasslands along the river) and at least 1 pair in 1989.

10.3.1.8 There are 3-5 pairs of **Ferruginous Hawks** nesting in the broad grasslands along the Souris River between Melita and the U.S. Border. Any impact from the Rafferty/Alameda dams would more likely affect prey species than nesting sites of this threatened hawk.

10.3.5.3 MANITOBA

The impact of the proposed Project on endangered species in Manitoba is expected to be minimal. There are however, two minnows considered rare in Manitoba that may be found in the Souris River but their distribution is poorly known. Bigmouth Shiner and Silver Chub. Changes in water flows may affect these species if they occur in the Souris River.

10.4.3 Rare Plants in Manitoba

There has not been a thorough botanical survey conducted of the Souris River and adjacent uplands. Such a survey should be undertaken if the IEE is to be complete in all respects. The survey could serve as a foundation for more complete assessment of potential impacts and a start for identification of mitigation measures.

12. SUMMARY.

Manitoba's major concerns relate to uncertainties in respect to the effects of the proposed Project on the volume and timing of water flows into Manitoba and the effects on water quality resulting from the accumulated effects of the proposed Project together with the adjustments to water control and water use that will occur in North Dakota.

In respect to Water Quantity Manitoba has placed on record its concerns in respect to the minimum flow guarantee which it presently has under the provisions of the 1959 Interim Measures. The guaranteed flow of 20 cfs (0.566 m^3/s) may not be sufficient to meet Manitoba's needs in respect to municipal water supply, stock watering, irrigation, recreation, and maintenance of a viable sports fishery in the Souris River in Manitoba. Manitoba will be reviewing its water needs and will, if it is considered appropriate, be requesting the International Joint Commission to reconsider the allocation of water provided to Manitoba under the 1959 Interim Measures.

Manitoba's concerns in respect to Flood Damage are not of a "project stopping" nature but require assurance that action will be taken to minimize such damages and to effect compensation where warranted.

Manitoba's concerns in respect to Water Quality involves the lack of a thorough, scientifically credible analysis which predicts the impacts on all water quality parameters at the North Dakota/Manitoba boundary, considering the collective impacts of the proposed Project and the water management responses in North Dakota. A water quality management plan must be developed that will address the issues of water quality impacts, the benchmarks or criteria that will trigger specific actions, the extent to which such actions will be successful and the relationship of such a water quality management plan to other competing water uses. Only when such a plan has been developed can its effectiveness be properly assessed.

In analyzing expected water quality effects and the development of the required water quality management plan there must be no doubt about the nature and source of all water entering the system. It is therefore essential that the possible use of ground water pumping to augment water supply to the reservoirs be fully addressed and put to rest.

Manitoba has for some time advocated the cooperative management of the waters of the Souris River Basin. Such management must involve the participation of all jurisdictions and must be done in a manner that will ensure the maintenance of water quality and the sharing of water quantity for the benefit of all. It must also ensure that both natural and man induced fluctuations of the flows of the river are managed for the protection of man, property and the environment.

Manitoba trusts that it will have an opportunity to comment on information that is received by Environment Canada as the "Information Deficiencies" noted in the Draft IEE are addressed and will be pleased to submit to Environment Canada any additional relevant material that comes to its attention.

TABLE [illegible]

[illegible]

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	AC-FT
1912	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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1916	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1919	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1920	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1921	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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1958	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1959	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1960	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1962	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1963	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1966	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1967	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1968	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1969	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1970	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1971	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1972	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1973	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1974	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(AC/FT)
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	[illegible]
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 4

[illegible] AT [illegible] (FT) RUN [illegible] POST [illegible]

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(A/FT)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(A/FT)
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 5

[illegible] LEVELS (FT) RUN [illegible] POST [illegible]

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 6

[illegible] D. AT [illegible] (CFS) [illegible] POST RAFFERTY

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(A/FT)
1912	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1915	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1916	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1917	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1919	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1920	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1921	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1922	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1923	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1924	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1925	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1926	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1927	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1928	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1929	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1930	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1931	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1932	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1933	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1934	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1935	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1936	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1937	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1938	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1939	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1940	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1941	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1942	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1943	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1944	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1945	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1946	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1947	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1948	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1949	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1951	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1953	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1954	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1955	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1956	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1957	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1958	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1959	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1960	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1962	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1963	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1966	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1967	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1968	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1969	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1970	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1971	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1972	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1973	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1974	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(A/FT)
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 7

LAKE [illegible] LEVELS (FT) [illegible] PRE RAFFERTY FIXED FOR DROUGHT CRITERIA

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
1912	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1914	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1915	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1916	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1917	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1919	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1920	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1921	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1922	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1923	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1924	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1925	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1926	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1927	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1928	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1929	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1930	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1931	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1932	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1933	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1934	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1935	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1936	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1937	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1938	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1939	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1940	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1941	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1942	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1943	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1944	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1945	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1946	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1947	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1948	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1949	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1951	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1953	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1954	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1955	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1956	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1957	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1958	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1959	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1960	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1962	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1963	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1966	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1967	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1968	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1969	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1970	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1971	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1972	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1973	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1974	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE [illegible]

[illegible] AT [illegible] (CFS) RUN 255A - [illegible] FOR DROUGHT CRITERIA

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(A/FT)
1912	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1913	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1914	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1915	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1916	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1917	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1919	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1920	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1921	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1922	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1923	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1924	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1925	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1926	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1927	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1928	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1929	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1930	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1931	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1932	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1933	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1934	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1935	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1936	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1937	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1938	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1939	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1940	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1941	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1942	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1943	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1944	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1945	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1946	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1947	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1948	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1949	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1951	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1953	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1954	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1955	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1956	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1957	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1958	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1959	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1960	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1962	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1963	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1966	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1967	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1968	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1969	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1970	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1971	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1972	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1973	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1974	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	VOL(A/FT)
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE [illegible]

LAKE [illegible] LEVELS (FT) RUN 255A - [illegible] FOR DROUGHT CRITERIA

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
1912	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1913	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1914	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1915	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1916	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1917	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1919	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1920	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1921	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1922	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1923	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1924	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1925	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1926	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1927	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1928	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1929	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1930	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1931	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1932	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1933	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1934	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1935	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1936	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1937	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1938	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1939	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1940	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1941	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1942	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1943	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1944	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1945	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1946	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1947	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1948	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1949	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1951	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1953	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1954	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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1963	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1965	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1966	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1967	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1968	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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1973	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1974	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTHLY SUMMARY FOR PERIOD OF RECORD

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN
MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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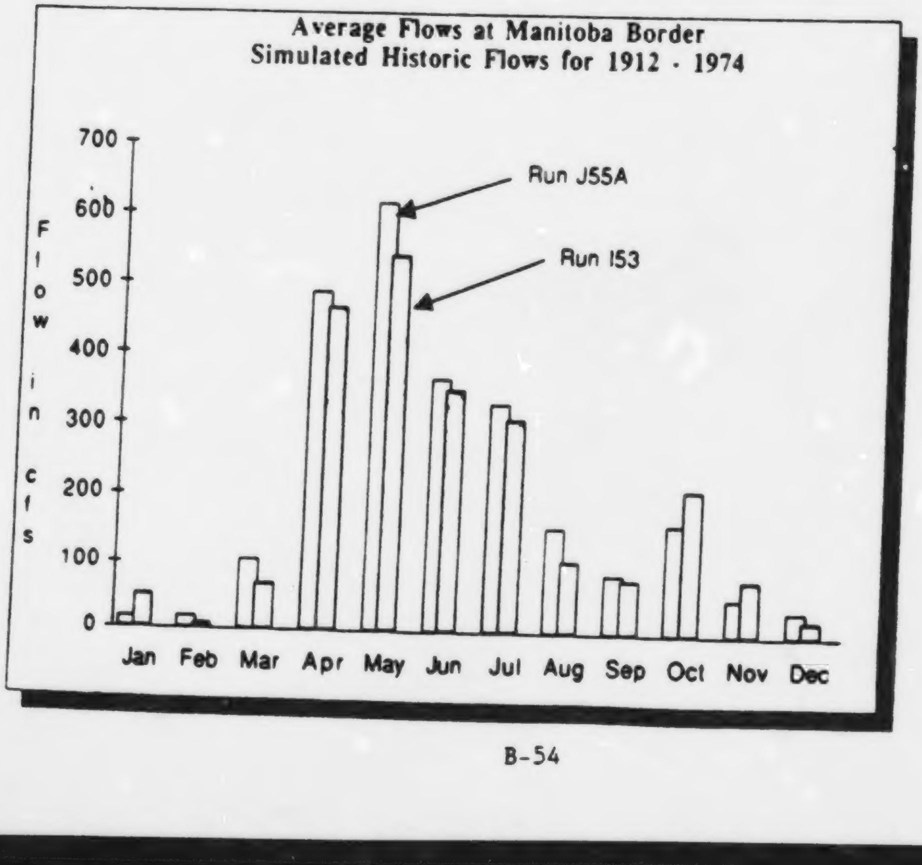
Average Flows at Manitoba Border
Simulated Historic Flows for 1912 - 1974
Flow in cfs
700
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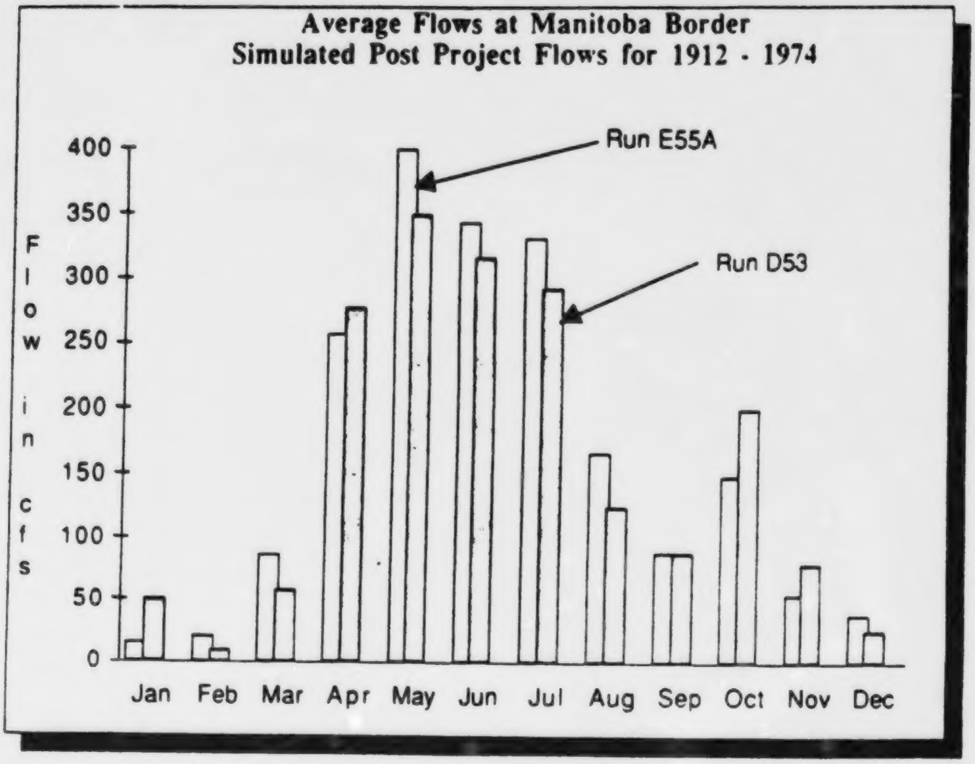
Nov
Dec

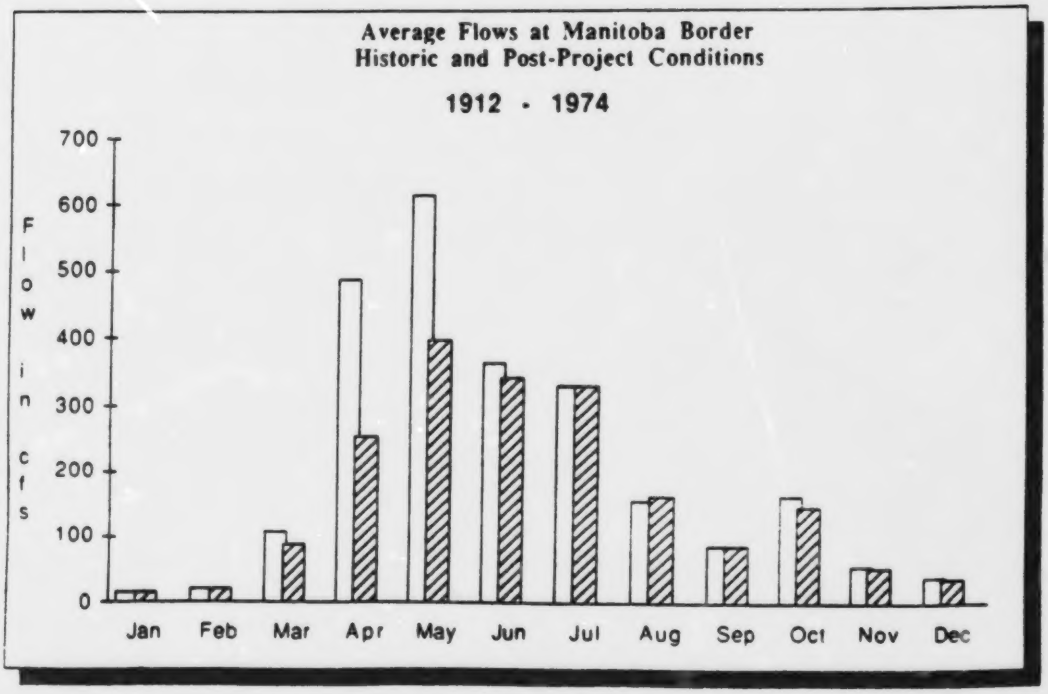
Figure 1

Figure 2



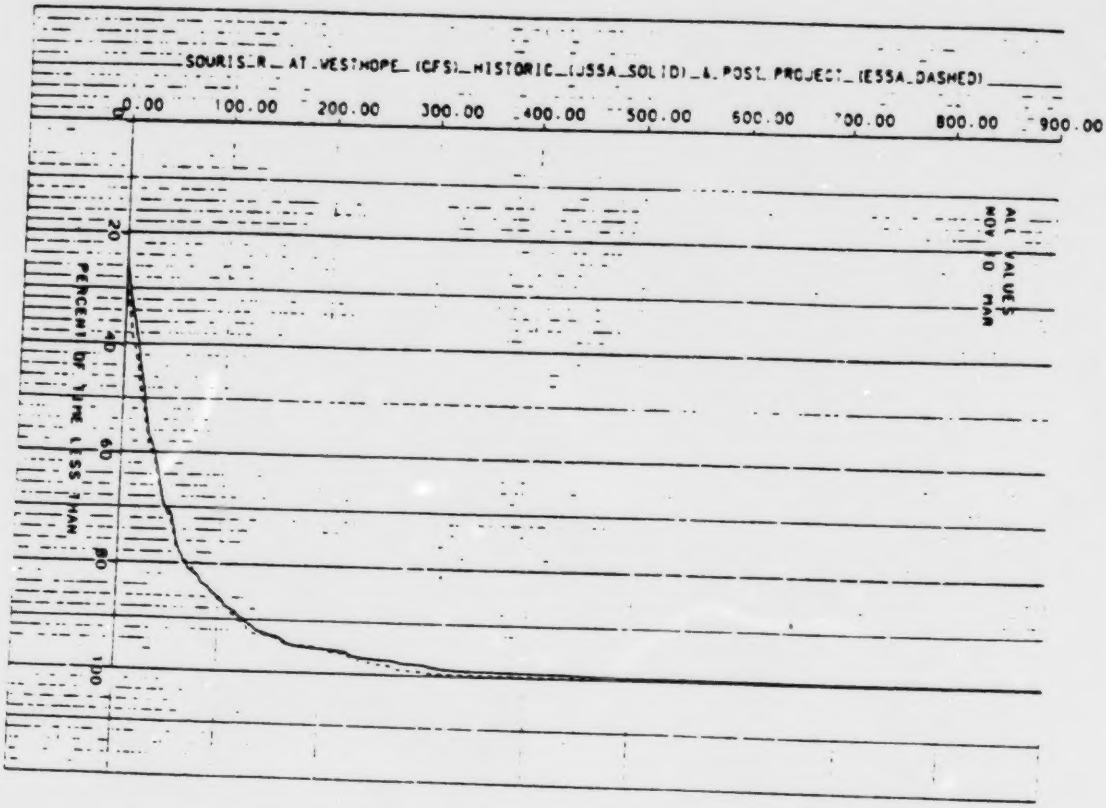
Average Flows at Manitoba Border
Simulated Post Project Flows for 1912 - 1974

Figure 1



Average Flows at Manitoba Border
Historic and Post-Project Conditions

1912 - 1974


SOURIS R AT WESTHOPE (CFS) HISTORIC (USSA SOLID) & POST PROJECT (ESSA DASHED)
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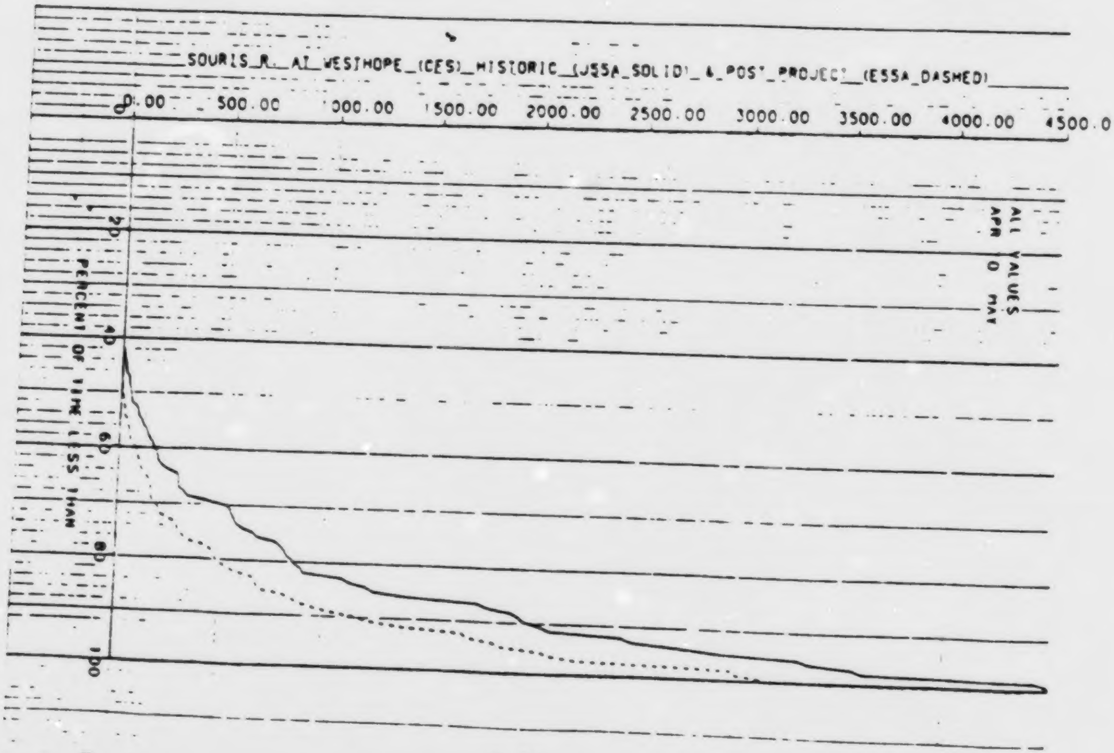
ALL VALUES NOV TO MAR


SOURIS R AT WESTHOPE (CFS) HISTORIC (USSA SOLID) & POST PROJECT (ESSA DASHED)
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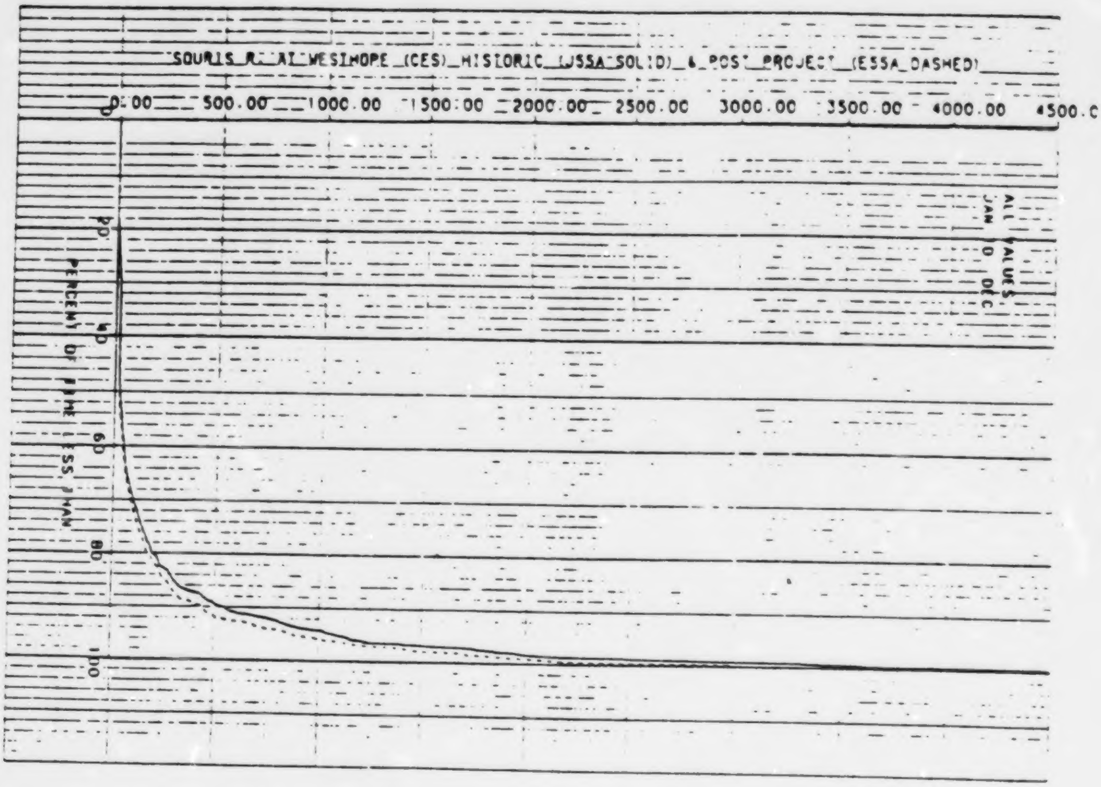
SOURIS R. AT WESTHOPE (CES) HISTORIC (USSA SOLID) & POST PROJECT (ESSA DASHED)
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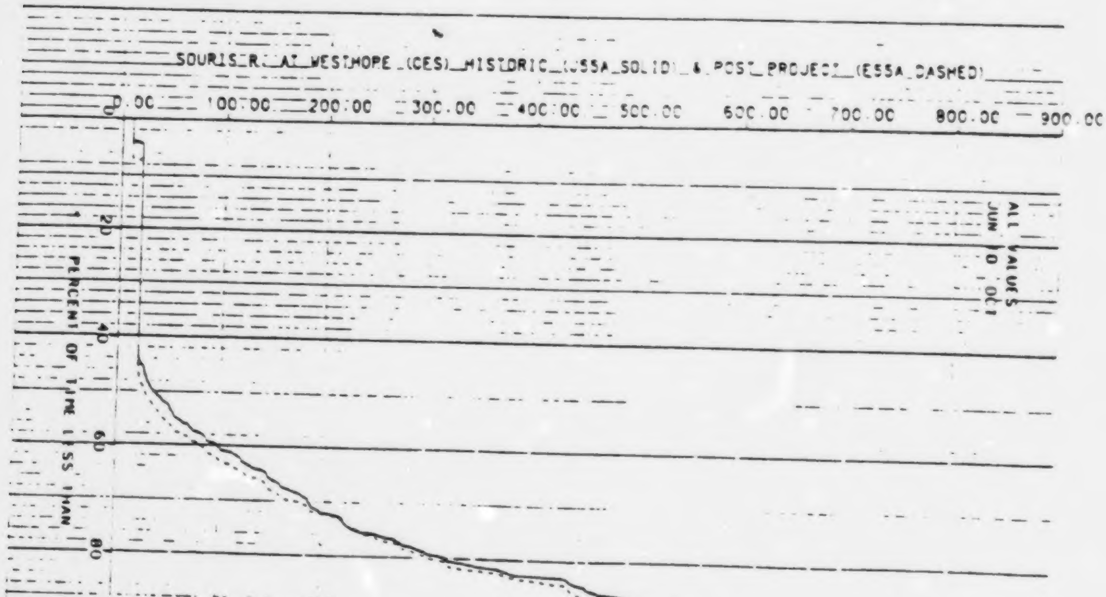
SOURIS R. AT WESTHOPE (CES) HISTORIC (USSA SOLID) & POST PROJECT (ESSA DASHED)
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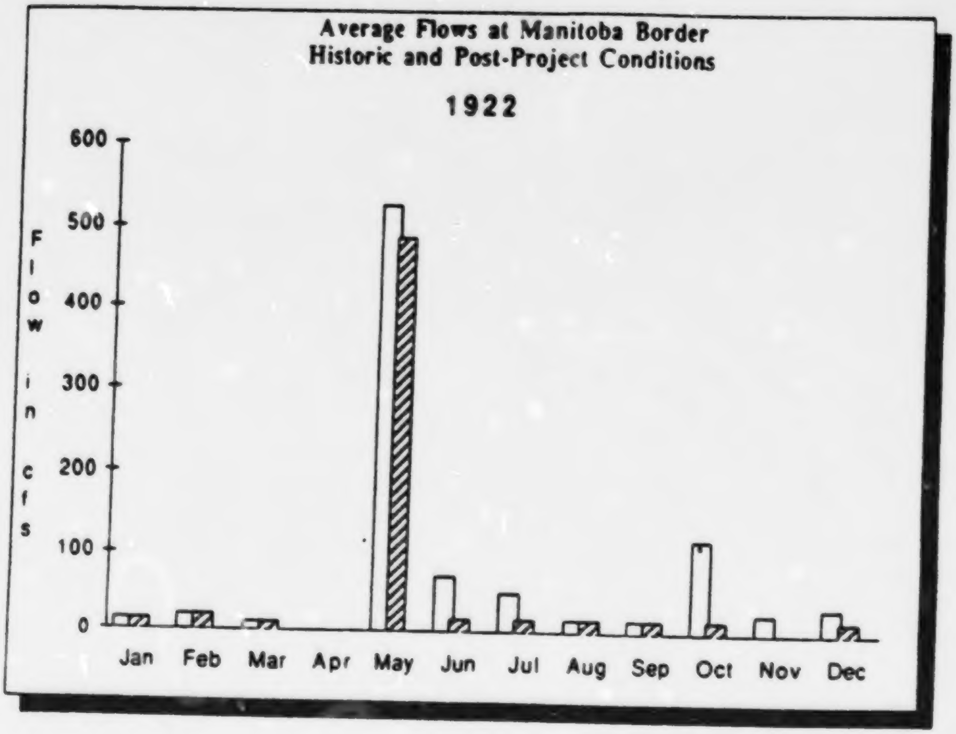
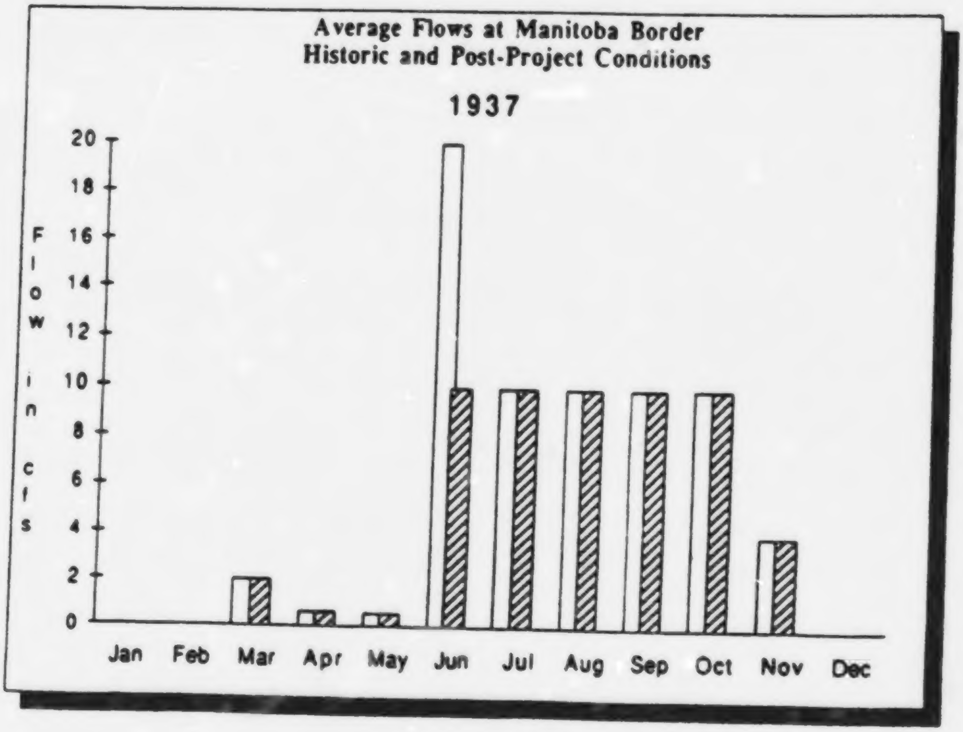
JUN TO OCT


Average Flows at Manitoba Border
Historic and Post-Project Conditions

1922

Fig. 8


Average Flows at Manitoba Border
Historic and Post-Project Conditions

1937

Figure 9

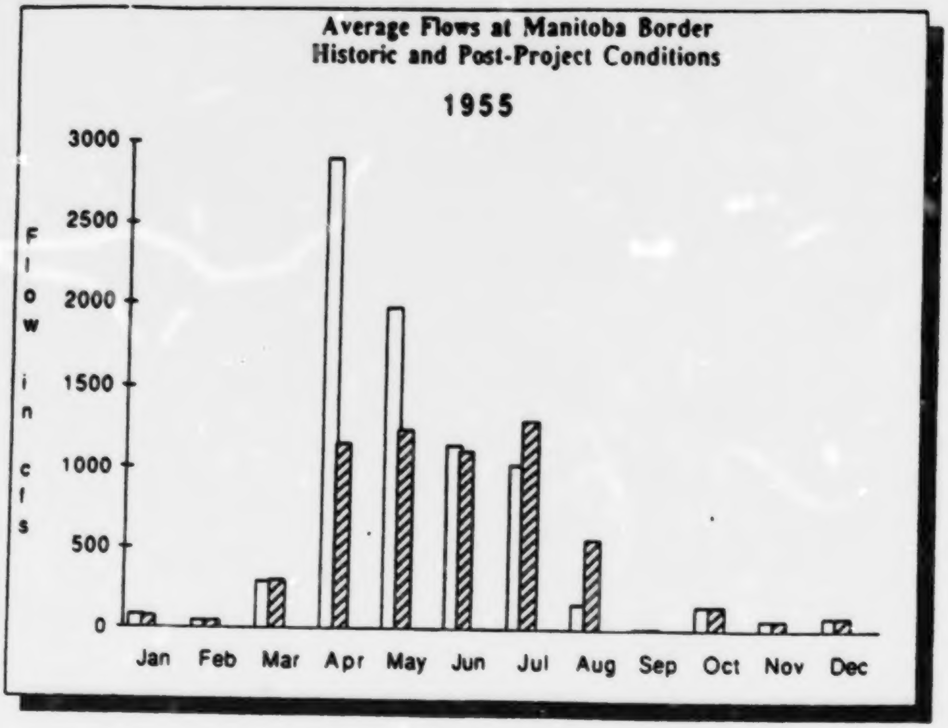


Figure 10

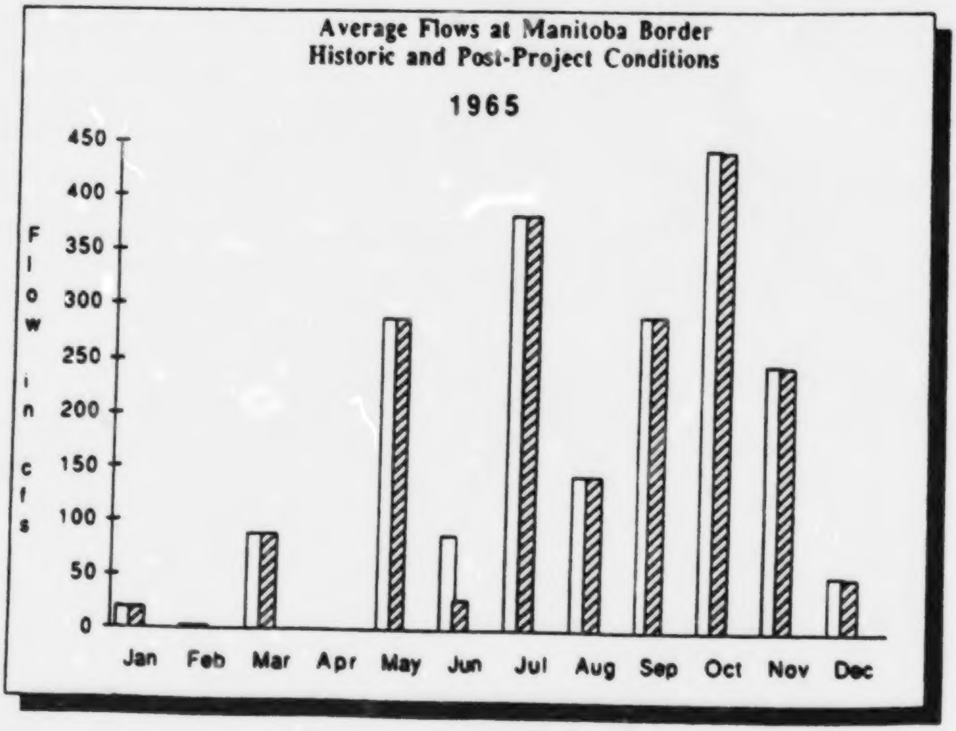


Figure 11

NORTH DAKOTA
STATE DEPARTMENT OF HEALTH
AND CONSOLIDATED LABORATORIES
State Capitol
Bismarck, North Dakota 58505

ENVIRONMENTAL HEALTH SECTION

1200 Missouri Avenue
P.O. Box 5520
Bismarck, North Dakota 58502-5520

July 7, 1989

B. M. Burns, Director General
Conservation and Protection
Western and Northern Region
Environment Canada
Twin Atria No. 2, Second Floor
4999 - 98th Street
Edmonton, Alberta
CANADA T6B 2X3

Dear Mr. Burns:

The North Dakota State Department of Health and Consolidated Laboratories has completed its review of the Rafferty-Alameda Projects Draft Initial Evaluation. The following detailed comments are supplemental to this Department's testimony presented at the public meeting in Minot on June 27, 1989 (attached).

As the regulatory agency for water quality in the state of North Dakota, our comments will focus on this issue as well as ancillary impacts that affect water quality.

We are in general concurrence with the evaluation as well as the delineation of impacts. The following points require clarification and/or modification.

Page vii, paragraph 3 - Nutrient loading to Lake Darling will not be reduced during the trophic upsurge or if low level discharges occur. Also the timing of nutrient loads and trophic response should be discussed. Sediment transport could increase for a period of time following channelization. The statement that water quality would be improved relative to pre-project conditions during low flow periods need significant clarification and subsequent elaboration on a parameter-by-parameter basis.

Page 4-9, paragraph 5 - The City of Minot uses its water rights for municipal supplies. The city uses groundwater supplies when surface water is not available. Their water right permit does not grant them water rights for dilution of wastewater effluent.

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biological community structure downstream. Further study within the framework of an international monitoring committee is necessary to identify the specific impacts North Dakota will experience.

Page 6-41, paragraph 3 - The results of modeling by the U.S. Environmental Protection Agency and the Souris Basin Development Authority require calibration and verification. Furthermore, the North Dakota standard of 0.02 milligrams per liter of unionized ammonia has changed (Standards of Water Quality for the State of North Dakota, May 1, 1989, attached).

Page 6-47, paragraph 6 - The City of Minot does not discharge during ice cover.

Page 6-52, paragraph 1 - The parameters of increasing concern should include unionized ammonia and total dissolved solids.

Page 6-52, paragraph 2 - The effects of Minot's treated wastewater effluent at the Manitoba border are negligible, relative to the impacts from J. Clark Salyer Wildlife Refuge.

Page 6-52, paragraph 3 - The statement, that further impairment to water quality and greater frequency of lower flows may exacerbate avian botulism, needs supportive documentation.

Page 6-61, paragraph 3 - It should be noted that the Eaton Irrigation District utilizes flood irrigation on hay land. This has negligible impact on receiving waters.

Page 6-66, paragraph 2 - The statement about exacerbating botulism among ducks needs significant clarification and supportive documentation.

Page 6-70, paragraph 4 - We strongly concur with this statement.

Page 6-71, paragraph 3 - We consider the lack of water quality model calibration and verification a significant deficiency.

We recognize, however, that a number of questions concerning water quality in the entire Souris River Basin will not be resolved in the foreseeable future. The establishment of an International Water Quality Monitoring Committee, and the development of an operational management plan, which is sensitive to mitigating downstream impacts in a timely fashion appears to be a reasonable way to resolve the potential impacts and for compliance with Article IV of the Boundary Waters Treaty.

We welcome the opportunity to work with Environment Canada, the provinces of Saskatchewan and Manitoba, and others in the

Further, we feel that using words such as "sewage waste discharges", "sewage effluent", or "sewage dilution", when referring to "discharges of treated municipal water from the City of Minot" is inappropriate and does not reflect the quality of wastewater effluent to the Souris. Numerous instances of this were found throughout the text of the Draft and Draft Summary Initial Environmental Evaluation. We would like to see this corrected in subsequent documents.

Page 6-3, paragraph 5 - The specific types of impairment of water to the J. Clark Salyer National Wildlife Refuge, if any, from the City of Minot's wastewater effluent, needs to be clarified.

Page 6-7, paragraph 1 - The statement that winter fish kills are common in Lake Darling where water levels can fall below optimum, needs substantial clarification and/or elaboration. There are numerous chemical and biological factors that influence winter kill that should be discussed. While we agree fish kills have occurred, we do not believe they are common.

Pages 6-22 through 6-25 - Table 6.9 identifies several numeric water quality standards for North Dakota. The Standards of Water Quality for the State of North Dakota were updated on May 1, 1989. There were several changes and additions to numeric standards that should be incorporated into the table. I am enclosing a copy for your convenience.

Page 6-36, paragraph 4 - We assume the author intended to say "When the reservoir is at a high level or at a level high enough to cause thermal stratification" instead of "When the reservoirs are at low levels ...".

Page 6-37, paragraph 2 - The statement that overall reduction in nutrient loading to Lake Darling is expected to retard eutrophication needs clarification. We agree that loading will probably be reduced in the long term, however, it could increase significantly during trophic upsurge and hypolimnetic releases. Furthermore, the timing of the nutrient load should be evaluated in the context of seasonal trophic response.

Page 6-38, paragraph 5 - The statement that algal blooms would be possible during the early years of operation appears to be an understatement. Unless some unknown algal inhibitors are present, very high primary productivity will occur on an annual basis.

Page 6-39, paragraph 2 - The winter release of greater than 50,000 dam^3 from dams, projected to occur seven times per century, will have a high potential for upsetting the

development and subsequent implementation of a comprehensive plan that maintains and, where possible, improves the values of the Souris River.

If you have any questions, please feel free to contact us.

Sincerely,

Gene A. Christianson, Chief
Environmental Health Section
North Dakota State Department of Health
and Consolidated Laboratories

GAC:MTS:erh
Enc.

445 Willow Bay
Estevan, Saskatchewan
S4A 2L3

June 22, 1989

Environment Canada
Inland Water Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sirs:

RE: **Rafferty Alameda Project**

Enclosed is a brief which I ask that you consider with regard to the Rafferty Alameda Project, but which I am unable to present at the Hearings.

Thank you.

Yours truly,

Carol Agostino

enclosure

BRIEF RAFFERTY ALAMEDA PROJECT
PEOPLE COUNT

Mr. Chairman:

I am submitting this brief on behalf of the Rafferty-Alameda Project because it is clear what it can do to improve the lives and livelihood of people in the area. I ask you to consider the project's capacity to protect my "habitat".

Our small towns, villages, hamlets and sidings are dying. Rail relocation, drops in farm income, drops in oil prices and lack of economic opportunity seem to be making people here an "endangered species". Please consider how our "nesting sites" have been flooded out, how our "populations" have declined, and how our "habitat" has been destroyed or degraded.

Our future depends upon the implementation of this water storage project. It is designed to protect people here from flooding, and to offset the ravages of drought. In the short term, construction will stimulate our local economy by providing income and employment.

.../2

In the longer term, the dams and reservoirs give us something to build on. Reliable water supplies will help diversify agriculture and encourage investment in local businesses. Some of which was occurring before the license was revoked.

Please think about us, the people who live here, within the larger context of federal responsibility for regional development. We are dying out in large numbers and our survival depends on the water that this project will provide.

[illegible]

Carol Agostino
445 Willow Bay
Estevan, Saskatchewan
S4A 2L3
Telephone: 634 9875

As a land user of the Souris Valley I appreciate this opportunity to present my views and concerns regarding the construction of the Rafferty Dam and the effects it would have on the valley itself as well as the effect on our own agricultural unit due to the loss incurred by flooding in the Lomond #1 P.F.R.A. Pasture.

I would like to question some of the statistics brought out in the Impact Study of the Valley:

1. Page 17, Paragraph 2 of the Executive Summary states: "Approximately 24 land owners will lose cereal crop and hay land on the Souris flood plain and Roughbark Creek."

Looking at the map of land owners, the number should be 45 land owners which includes the land owners losing grazing land. Add to this 26 private agricultural units comprised of deeded and leased land, and the community pasture patrons and the number of people affected is 177.

2. With regard to hay plot lease holders: page 16, chapter 12 "Land Use". It states the authority recognizes the importance of hay production to local land owners and lessees, but considers it to be a realistic trade off by increased production down the valley below the dam site.

I don't consider the loss of this valuable income for 26 private agricultural units, plus the community pasture patrons to be a trade off for a few who may irrigate below the structure when the extent of irrigation below the structure is unknown.

Talking with a number of lease holders, production of hay should be closer to two tonne/acre, rather than 3.4 tonne/acre as states on Page 16, Paragraph 3, Environmental Impact Study. Relating this fact to 2066 acres of hay land at 2 tonne/acre, this is not a realistic

trade off for the loss in production.

3. With respect to irrigation, Page 10, Environmental Impact Study. The study indicates the amount of land that would be developed economically is small, and there is no assurance there will be sufficient water reliably available for irrigation.

As there is no assurance of water for irrigation, I feel the lost production and disruption of farm units within the reservoir area would be a totally unrealistic trade off for the potential increased production down-stream.

4. With respect to the pasture patrons: We are usually smaller producers who rely on the community pasture to extend our land base to form a valuable economic unit. We will be seriously affected by the permanent loss of the most productive grazing acres of the pasture. The Environmental Impact Study suggests compensating the loss by irrigation and fertilization. This would not be practical to do now or it would be being done. Also who would pick up the long term cost for such a project.

The reduction in allocation is based solely on acres lost not on the productivity of valley land as compared to top land. Also lost would be the natural residue for livestock which would result in less net gain.

5. With the design of the project to catch, store as flood protection, and release water down stream till the full service level is reached, it would leave the upper reaches of the flood plain a devastating mud bog. Cattle would be unable to use the natural water supply. As well the vegetation in this area would be lost due to prolonged flooding. It would make a natural breeding area for

mosquitoes and flies And with the natural protection of the river bush being destroyed, cattle would have no refuge from these pests, which would result in a net loss in weight gain for the livestock

In conclusion: I do not see any one time compensation could ever be a sufficient trade off for the devastating loss that would occur if this entire valley was lost to the reservoir I am not opposed to the development of Shand as an energy source, but I understand this project could be done without Rafferty Dam

Is not recreation being substituted for agricultural?, pleasure for our livelihood?; flood protection for the U S A at the expense of our productive valley instead of theirs?

I believe the studies done have been inaccurate and incomplete Thank you for your interest in having an independent study assess the feasibility of the Rafferty Project

Submitted by.

Norman N. Alexander

Norman N Alexander

A. ANDREWS
BOX 9
TORQUAY, SASK.
S0C 2L0

June 21,1989

The Honourable Lucien Bouchard
Federal Minister of the Environment
House of Commons
Ottawa, Ontario
K1A 0A6

Dear Sir;

Would you be so kind as to share this letter with our Prime Minister, the Honourable Brian Mulroney.

I want to say that I am seventy seven years old and live in the Village Torquay which is approximately fourteen miles south of Mainprize Regional Park which lies in the Souris Valley and by which the Souris River runs.

I have hunted deer in the area between Torquay and the Souris Valley for approximately forty-two years from just east of Weyburn to the proposed location for the Rafferty Dam, a distance of approximately thirty-five miles. Never, never do we go down into the Valley for deer as there are few there. They do come down a very short distance at the top of the Valley and in the draws that go down into the Valley, but are generally up on the flat top land and in the open areas. This is where they stay winter and summer and is also where they have their young.

This last winter we had thirteen herds of deer up to 100 or 150 deer on the flats between here and the Souris Valley, and south of Torquay there were 200-300 deer on the flats. Deer do not stay in the Valley either winter or summer.

As for fishing, we used to fish in the Souris River and in what is known locally as Dead Lake which exists because of a small dam that was put in years ago.

This year because of so little water in the River and Dead Lake, there was no fishing and what fish had lived in these spots after the winters of 1988 and 1989 have almost all died.

There was also a time when we used to have a large flock of pelicans that stayed on the Souris River and a lot of Ducks and Geese where we used to go duck and geese hunting. Because of low water levels there are none of these today. Last year, farmers on both sides of the Souris River pumped water for miles on each side for their dugouts etc., and there were only spots in the river where they could put their pumps in because of low water.

We had major floods on the Souris River between 1912 and 1982. Had the Rafferty Dam been built before the last two floods that would have filled the whole Valley across three or five feet deep in 1978 and 1982. We could have had a beautiful lake in south Saskatchewan. What happens every time we have a flood is that all the water goes into North Dakota and back to

To Page 2 ...

Manitoba and then on to the ocean.

I am not partial to any Government that we have in Saskatchewan whether it be Liberal, N.D.P. or Conservatives but only tell you the honest truth and facts.

So please lets get going so we have water for so many things.

Yours Sincerely,

Armoaire Andrews

[illegible]

Saskatchewan Wildlife Federation
CENTRAL OFFICE
BOX 788 MOOSE JAW
S6H 4P8

July 5, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Ave.
REGINA, Sask.
S4P 3R4

Dear Sirs:

The Saskatchewan Wildlife Federation feels that the S.B.D.A.'s Environmental Impact Study failed to address many of the concerns in the Souris River Basin related to the construction of the Rafferty/Alameda Dams.

The Draft I.E.E. by the Federal Government has done an excellent job of pointing out the many discrepancies and information gaps of that E.I.S.

We strongly recommend that the proposal be referred to an independent Environmental Assessment Panel under stage II of EARP.

Respectfully submitted,

Ed Begin
Executive Director

EB/mh

RECEIVED
JUL 1989
ENVIRONMENT CANADA
REGINA SASK

---

811 Hastings Place,
Estevan, Sask.
July 7, 1989

RECEIVED
JUL 1989
ENVIRONMENT CANADA
REGINA SASK

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

My purpose in writing this brief is to encourage Environment Canada to move more quickly in letting construction of the Rafferty-Alameda Project recommence. I am very concerned that these prolonged delays, coupled with the relatively short prairie construction season are seriously jeopardizing the future of this project.

Having read Environment Canada's Draft Initial Environmental Evaluation I find nothing sufficiently substantive to warrant the loss of Rafferty-Alameda.

Most of the concerns are hypothetical. I suggest that it be agreed, federally and provincially, that this project is vital. Let it be agreed also that there may be concerns that must be addressed when the project is operational. That time is some years away. Surely, in that period, environmental issues can be more precisely refined and performance targets could be established for both levels of government.

My point is that there is no value in waiting while you wonder about what may happen. Let's build Rafferty-Alameda with conditions on your licence if necessary, and then let's set about fulfilling the condition as we fulfill the larger objectives - water conservation, flood protection, and regional development.

Yours truly,

Blair Bergen

811 Hastings Place,
Estevan, Sask.
July 7, 1989

RECEIVED
JUL 1989
ENVIRONMENT CANADA

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I have followed the debate surrounding Rafferty-Alameda with interest. For the most part, I respect the opinions of both sides, however, I strongly lean toward those who support the project. This is an area of the province which desperately needs water conservation. As a resident, who has witnessed the high personal cost of both flood and drought, I have a natural sympathy for an initiative which will assist in the resolutions of both.

Nontheless, I wanted to be aware of environmental implications. For that reason, I attended public meetings held in my area and read the material provided. Two things bothered me. One, Environment Canada has not given thought to what will happen to wildlife and water without Rafferty-Alameda; and second, I think you make your department look rather silly when you try to discuss Rafferty-Alameda as something which might affect navigation on the Souris. Anyone who lives here can tell you that the environmental concerns you identify are better addressed by this project than without and also, navigation on the Souris is impossible. There is currently nothing being done to preserve or protect plants and animals and each year, portions of the Souris are dry.

Environment Canada's federal responsibilities in this area are better served by Rafferty-Alameda than by any other agency to date.

...2...

Please support the project and allow it to proceed.

Yours sincerely,

Susan Bergen

Susan Bergen
Tel: 634 5911

Glen Ewen, Saskatchewan
S0C 1C0

July 7, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

As someone who has followed the most recent hearings on the future of the Rafferty-Alameda Project, and added my support to that of friends and neighbours in the area, I am writing now to ensure that our voices are heard in Ottawa.

I am deeply concerned that, media being what it is, you will not hear how much we desire the continuation of Rafferty-Alameda. I want to assure you that we who want the project are the majority. It seems that the press does not hear us and we need desperately to be heard. Rafferty-Alameda is a project which we have worked for, fought for and prayed for. Only someone who has experienced the floods as we have and has seen years of effort and investment washed away can know what these dams and reservoirs mean to us. By the same token, only someone who has watched their children struggling to make ends meet, trucking feed, trucking water, can know what hardships that successive years of drought can bring.

Our children are working so very hard to make a living here, as did we. Water is at the root of every grief we bear...to much or too little. My children can make a living here if they can count on water supply.

Rafferty-Alameda, by regulating flow, will protect us from floods and provide water during dry seasons. Perhaps most important, it will protect our families. There is a future for the family farm here if we can resolve the problems we now face with water supply.

There is no future for any of us without Rafferty-Alameda. Our towns are shrinking; our young people are leaving, about half of those of us left are over 50 years of age. The impact goes beyond the obvious. We are feeling it in our shrinking church congregations, smaller community associations and an increasing loss of services. Physicians retire and cannot be replaced. There are no specialists in the area, some come down from Regina. We get a dentist once a week but have to drive some distance to his office. There is no room for an unscheduled emergency. It's a long painful drive if you have a toothache on the wrong day! Local hospitals are closing wings - especially in maternity. Special care is becoming increasingly centralized. All of this is a result of the poor local economy. All of it could be improved with Rafferty-Alameda.

That project will bring terrific activity to the area - during construction and after. Much has been said about the need to diversify. That is precisley what Rafferty-Alameda will achieve for us. New opportunties, new jobs, and new people - all are part and parcel of the project.

We need the reassurance of Environment Canada that you recognize our need. We want you to let Rafferty-Alameda proceed. There is time to ensure that the environmental priorities are addressed but it is vital that they not supercede the current priorities of those of us who live here. Had Rafferty been allowed to continue, we would have had initial flood protection by next spring. We are in jeopardy for as long as you delay.

Please let us get on with the work. We will work with you in protecting the environment, please don't work against us in protecting our homes.

Yours sincerely,

Ralph Bigney

Telephone: 925-2205

We have watched the months go by since work at the Rafferty/Alameda project was forced to a halt. According to the press, it's costing $ 2 million a month while we wait for Environment Canada's review. My understanding at this point, is that more months might go by while more reviews or studies or hearings are undertaken.

This is such a huge, enormous waste of time. There is an extraordinarily high degree of regional support. This has been demonstrated time and time again. Surely we have shown that the project is of significant importance to us.

My question then is "why not let Rafferty-Alameda proceed?" Add conditions related to specific operating features if you must. I have been told that there are precedents for this and certainly there is sufficient time.

In my review of the material provided by Environment Canada officials at recent public meetings here, it seemed that environmental concerns focus on the completed project not the construction. My recommendation then, is that Environment Canada grant the license for construction and then seek to participate more effectively in planning the future benefits to wildlife and the surrounding area.

Yours Truly,

J Blackburn

John Blackburn
10-910 13th Ave
Estevan Sask

ESTEVAN COAL
CORPORATION

PO BOX 908
ESTEVAN SASKATCHEWAN
CANADA S4A 2A7
Phone (306) 634 7251
Fax (306) 634 7068

June 22, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir/Madam:

Re: Rafferty-Alameda Project
Draft Summary Initial Environmental Evaluation

Estevan Coal Corporation (ECC) wishes to thank Environment Canada for the opportunity to review and comment on the Draft Summary Initial Environmental Evaluation report for the Rafferty-Alameda Project.

ECC is the owner and operator of two coal minesites in the Estevan area; the Boundary Dam mine south of the City, and the Bienfait Mine, south of the town of Bienfait. Additionally, ECC has recently negotiated a long term contract with SaskPower for the supply of coal to the Shand Power Station which will involve the development of a new minesite southeast of Estevan. Our Company has had a long history in the region spanning some 83

years. Recently acquired coal contracts for the Shand Station and the existing Boundary Dam Power Station ensure our continued involvement in this community for the decades ahead. We believe the development of the Rafferty-Alameda project will directly and indirectly benefit our current and future operations and employees in a positive manner. These project benefits were outlined to the Provincial Board of Inquiry in September 1987 and we re-state them here:

As A Power Consumer: The project will ensure adequate supplies of water to the Boundary Dam Reservoir. This will provide a greater level of assurance that the Boundary Dam Generating Station will be able to operate at full capacity and thereby more efficiently. In recent years, low water levels in the reservoir have jeopardised the ability of the Station to operate at full capacity and have forced the purchase of expensive replacement power from outside of the Province. Our coal mines are also large consumers of electric power and require that power on an efficient and reliable basis.

As A Coal Supplier: Coal-fired generating stations and the associated mines are interdependent. Events which adversely affect the station will usually also adversely affect the supplying mine. Reduced power output translates into reduced fuel requirements, disrupting manpower needs, equipment scheduling and a less efficient fuel supply. These concerns affect both our current operations and the Shand project which is under development.

As A Community Member: ECC is a major employer in the Estevan area and considers the quality-of-life opportunities available to its employees an important factor in procuring and maintaining a stable workforce. Many of our employees also own or operate farms in the area. The project offers benefits in terms of flood control, farm irrigation and recreational opportunities as well as a means of attracting and retaining associated industries.

With this background, the following points are brought forward based on our preliminary review of the Summary Report (dated May 31, 1989).

First, while the document focuses on environmental aspects, it is our understanding that the Environmental Assessment Review Process (EARP), as noted on Page 2 of the report also involves consideration of social and economic criteria. We suggest the project has considerable benefits in this area and that this perspective on the project should not be overlooked. Obviously any development will impact on the environment, but a balanced viewpoint must be considered.

Secondly, the document suggests there are deficiencies and impact concerns in the areas of water management planning and wildlife impact mitigation. We believe that environmental protection programs can and should be developed to minimize these impacts. As a coal producer, we strongly believe and endorse that environmental impacts must be addressed with due care and attention. However, we do not see the need for further delay in project development, particularly if basic committments to such actions are made.

Thank you for your consideration of our comments on the draft report. We trust the final document and recommendations will reflect the wider perspective on the benefits of this project.

Yours truly,

P. M. Bowman

P.M. Bowman
Executive Vice President
and General Manager

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ENVIRONMENT
CANADA
JUN 1989

[illegible] 1989

[illegible] ment Canada
[illegible] Water [illegible]
[illegible] Victoria Avenue
[illegible]

[illegible]

I have been [illegible] in the city of [illegible] a good many years. Like most other members of [illegible] Chamber of Commerce I am [illegible] of how the fortunes of the agricultural [illegible] affect our ability to keep our businesses going. One of the reasons I supported and continue to support the Rafferty Alameda Project is because I believe in its ability to help moderate some of the bad years [illegible] water supply [illegible] grain and cattle farmers.

When my customers have a bad year I also have a bad year, so any [illegible] which helps them [illegible] helps mine.

The dams and reservoirs were good for business in other ways as well. When [illegible] When the licence was revoked it was like pulling the plug. Many [illegible] after making very large investments in inventory [illegible] overnight.

We [illegible] that [illegible] we [illegible] community, we can respond to a big project [illegible] the ability [illegible] the project [illegible]

My question is at what point can we with confidence [illegible] the project can be withdrawn. When private and public [illegible] what confidence can we in the private [illegible] public [illegible] a licence on impact.

The issue goes beyond Rafferty Alameda [illegible] government [illegible] commitment. I believe [illegible] warranted that the provincial authority did [illegible] in justifying [illegible] and continue to work [illegible] commercial [illegible]

[illegible]

Box 184,
Kisbey, Sask.
July 8, 1989

Environment Canada
1901 Victoria Avenue
Regina, Sask.

Dear Sir,

As a producer of food for domestic and export consumptions, I feel that I play an important, if small role, in Cnaeda's economy. Also being isolated in a rural community, I frequently feel that I am a victom of how that economy is governed. My income and my capacity to produce are forever governed by forces beyond my control.

Rafferty Alameda is a project that tilts some of the elements in my favour. It is designed to manage the water resources of the Souris effectively and efficiently this has never been done before. Water has washed through the area that so desperately needed it and crossed over the storage facilities on the other side of the border. For years, we have fought flood and drought in a river system that we knew could be turned to our advantage.

These last few years we have had progressively poorer yields. These have been particularly harsh years, but what makes it even more painful is the knowledge that we could do better. Water storage could make a big difference for us.

On average, wheat yields for the R.M.'s around Rafferty are down by about 11% for the 1981 1986 period. This pattern generally holds for yields in durum, oats, barley, fall rye, flax and rape. For most crops, our yields are substantially lower than those characteristic of the province as a whole. Cattle production has also dropped dramatically.

I read recently (Leader Post, June 1989) that there will be a world wide rise in demand for food products. Apparently the C.D. Howe Institute predicts that a rapidly growing world population an increasing demand for food will provide Canada's agriculture industry with significant opportunities over the next decade. An increase in the demand for farm products is predicted by the year 2000.

We could be reaping the benefits of Rafferty-Alameda by the Year 2000. We, in this area, would be providing cattle, grains and other specialty crops to meet the world market demand. This part of Saskatchewan could have a much greater input into Cnada's agricultural capacity - but we can't do it without water. We need this project, this year - now.

The government of Canada has a commitment to Canadian farmers, a responsibility to ensure their capacity to produce for domestic and for world markets. Rafferty-Alameda is consistent with national and regional development priorities. The Souris Basin Development Authority has demonstrated its willingness to comply with environmental regulations. It remains now for Environment Canada to work with us not against us, in ensuring that responsibilities are served effectively by all concerned. The federal government cannot meet is target for development and food production by denying us water.

Yours sincerely,

"Allan Brigden"
Allan Brigden
Telephone # 306 462 4813

Brief to Souris-Basin Board of Enquiry.

When the first Board of Enquiry was convened to get public reaction to the Rafferty Alameda project, it was so rushed that the public did not have any facts at all about the impacts of the project.

The Board itself, was not qualified to assess the value of the project, nor of its damage to the environment. -- People from P.F.R.A., from the School of Agriculture, from Wild-life Federation and local Ag Reps should have been on the Board.

When cattle are fenced away from water, people will sell their herds. All the assistance given the cattle industry over the years will be lost. All the income from 300,000 cattle will be lost each year when their pasture is flooded and their water made unavailable. Lost also, will be the jobs created by the handling, transporting, selling & processing of these animals.

The economic value of the Alameda dam has been grossly over-stated. No water will be allowed to be kept at Alameda as 70% of Souris Basin water will be kept at Rafferty,-- No water for recreation, or to irrigate the saline upland soil.--All must go to the U.S.

It's the same old story -- Using the most productive land in two valleys for Greed -- not Need. Greed drives the promoter to exploit, Greed drives landowners to sell, tempted by an inflated cash price. Greed for power drives the politicians:-- Nobody stops to find out if this is the best, most efficient way to satisfy peoples' real needs.

JUL 1989
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[illegible] SASK.

In exchange for once in a hundred year flood protection, Minot will have to spend millions to change their sewer system or find other water to dilute their effluent. The fishing industry at Lake Darling will be gone. Extensive waterfowl breeding habitat will also occur. We in Canada will lose 6,140 ha permanently, if and when both reservoirs are full.

Devine is trying to remove Federal laws which control the environmental impact of Provincial projects.

Please do not allow the Federal Environmental Dep't to absolve itself of responsibility because of some political horse-trade.

John Brown
Carlyle Sask
Box 611
SOC. ORO

Box 787,
Redvers, Sask.
July 6, 1989

JUL 1989
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ENVIRONMENT
CANADA
REGINA SASK.

Canada Environment,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

My interest in protecting my home and the future of my family includes a concern for the environment. I provide winter food for starving deer, and water on my land is used by waterfowl. I have every confidence that the Souris Basin Development Authority will proceed as carefully as possible where environmental protection is concerned. I am less confident that you are equally concerned about protection for me, my family, and my neighbors.

People, who make their living from this valley, need Rafferty-Alameda - we needed these dams and reservoirs in the real bad floods, and we needed them in the droughts. We need them now more than ever - we aren't just losing our crops and our livestock - we have lost them for decades and hung on. Things are so bad now, that we are losing our future - our children, our grandchildren. We are losing schools, local health services, our community organizations, and our confidence in our future.

Please put me down as being in favour of Rafferty. We live on the [illegible] Section 11 1. 16 W. of Lewvan, Sask. close to the beginning of the Souris river which runs diagonally through our land. I've lived on this farm since 194[illegible].

I've seen many dry years also wet years with heavy spring run off, sometimes to the place where our 6' foot bridges were unable to handle the flow. We presented some flood pictures to last years study session in Weyburn, these were lost to us which is unfortunate as they clearly showed the water potential.

On the practical side lets try to retain as much of this run off as possible instead of losing it to the U.S.A. water is apparently becoming a scarce commodity.

Why do we protect ducks and deer and, to have hunting seasons, we seem to have a double standard. We are more concerned about environment and wildlife than about human life for example abortion of babies.

Thank you,

Ed Pudding
Lewvan

Our small towns, villages and hamlets are dying. Rail relocation, drops in farm income, drops in oil prices and lack of economic opportunity seems to be making people here an "endangered species". Maybe you should consider how our "nesting sites" have been flooded out, how our "populations" have declined, how our habitat has been destroyed or degraded. These quotes are from your Draft Summary Initial Environmental Evaluation. It worries me a great deal that nowhere in your document do you discuss the impact on people.

Our future depends on the implementation of this water storage project. It is designed to protect people from flooding, to offset the ravages of drought abd to stimulate our local economy. In the short run, construction is a boost for our local people by providing income and employment.

In the longer term, the dams and reservoirs give us something to build on. Reliable water supplies will help diversify agricultural units and encourage investment in local business.

If you force this project to die, you let a whole part of Saskatchewan die , and I don't think you can afford that! For as much as the Federal Government has a responsibility to the environment, it also has a responsibility for the quality of life of the people in the area. Regional development and economic diversification objectives will benefit from the Rafferty and Alameda dams.

The federal government should recognize the need and support this project. I urge you to allow us to build the Rafferty and Alameda dams.

Yours sincerely,

Don Carlsen
452-3330

Ducks Unlimited Canada
P.O. Box 4465, 1606 4th Ave., Regina, Sask. S4P 3W7 (306) 569-0424

July 12, 1988

"HAND DELIVERED"

Chairman, Environmental Review
Rafferty-Alameda Project
Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

Ducks Unlimited Canada did not make a presentation at the recent public hearings on the Rafferty-Alameda Project, therefore we would ask that you accept this written presentation of our concerns.

We have attached a copy of our original submission to the Souris Board of Inquiry in September, 1987, which stated our concerns at that time, and many of these concerns still exist at this time.

The recently published "Initial Environmental Evaluation" predicts a much higher loss in duck production as a result of the construction of the Rafferty reservoir than did the Souris Basin Environment impact. This difference must be resolved so that suitable mitigation measures can be planned if there will be a "net loss" in duck production.

Our major concern still relates to the total Souris River Drainage Area and as stated in our original submission to the Souris River Development Authority, the building of the Rafferty Dam will immediately change the emphasis from one of flooding to a water shortage. In the past, fear of adding to the flooding problem has helped to protect wetlands within the drainage basin. This is evident by the drainage freeze in the past. The analysis of the basin hydrology indicates there will be great difficulty in filling the Rafferty Reservoir, thus the need to restrict drainage will no longer exist.

The federal license for the project indicated in Clause 6 that the licensee not cause a net loss of waterfowl productivity in the Saskatchewan portion of the Souris River Basin. We felt that this clause provided the protection we were asking for, however, in spite of meetings with the Saskatchewan Water Corporation and the Souris River Development Authority, we were unable to get any indication of how this "no net loss" provision would be administered, and there were some who were interpreting this clause to apply to only the reservoir. Any new license should clearly outline the full intent of how the "no net loss" provision will be administered.

Ducks Unlimited Canada has purposely not taken sides in the Rafferty-Alameda debate as we are not for or against the project, but we do not want to see waterfowl end up in a net loss position. This should not be necessary if the proper controls are put in place and suitable mitigation measures are provided where they are deemed necessary.

Sincerely,

for D.A. Chekay
Provincial Manager

DAC/AHI/dll

Attach.

RAFFERTY/ALAMEDA DAM EVALUATION STATEMENT

In entering this debate, the Sierra Club (Saskatchewan Group) would urge that discussion be removed from the realm of confrontation and into, when at all possible, that of co-operative problem solving by combining our collective energies to come up with solutions that take into account all the problems and aspirations so energetically expressed during these presentations.

That many presenters seem genuinely astonished at others's inability to see the merits of their positions might well indicate that, far from simply disagreeing about the IMPLICATIONS of the Rafferty/Shand project, we are unable to agree on what it IS and what it will DO.

With this in mind we approach discussion of the project as it can be evaluated under the category of "works for the general advantage of Canada" as stated in the study summary of Federal jurisdiction concerns.

Even granting that the benefits may be as positive as their proponents present them, and at the same time, that the losses of wildlife habitat and water quality will be as damaging as predicted will the costs thus incurred justify the benefits thus accruing to such a small part of Saskatchewan power projects notwithstanding?

The Sierra Club supports the farmers, the citizens of Estevan and all those affected by the flood/drought cycles of the area in their quest for a long term solution to their water problems. We cannot, however, support the Rafferty Dam as being the most cost efective and real answer to those needs.

We would ask those evaluating this project to consider the following concerns:

- For what primary purpose is that dam being built?
  - To generate employment?
  - To irrigate farmland?
  - To supply water to Estevan?
  - To provide new recreational opportunities?
  - To give the U.S. a flood control program and half the water?
  - To cool the Shand Power Plant?
- Can the project realistically do all these things?
- If it cannot, who gets priority use of the water?
- Must all these needs be addressed in one project? Would it not be more cost effective and less environmentally damaging to undertake them separately?
- Is there a reason for combining then in their present location which doesn't involve water, power or employment?
- Why does a diminishing population require more power?
- If additional power generating capacity is required in Saskatchewan:
  - Is a fossil fuel dependant facility the best choice - particularly if it requires one of our scarcest resources to cool it?
  - Are there not simpler, smaller, less expensive and more regionally beneficial ways of adding power to the grid (the wind and sunshine which threaten to eveporate the reservoir?)
- Will there be sufficient water accumulated behing the dam to cool the Shand?
- Are all the predicted benefits, saving the employment required to construct it, likely to be put in jeopardy if the long awaited water evaporates as fast as it accumulates?
- Has conservation of water been given the same priority as the damming of it? Are we flushing and automatic sprinklering such a great deal of it down the drain and up into the atmosphere - the better to precipitate somewhere else - that we need to build a dam to make such amenities possible?
- Has the conservation of power in Saskatchewan been given the same priority as the generation of it? The replacement of all our power inefficient lighbulbs with efficient screw-in flourescents would dramatically reduce our power demand as would energy-efficient buildings. Economic diversification in those areas would house two birds with one program, and not destroy their habitat.

Although it's the Sierra Club's policy to work toward sustainable development sloutions, we believe that they should err on the side of the environment, in which we are but another organism, and that economic development can, as it has always done, adapt to changing criteria; whether these are market fluctuations or environmental parameters. Superstore is already out of the gates with its green products; need we be less inventive?

It is further our policy that Conservation is the answer; whether of ducks, marshes, sloughs, water, power, soil or or a viable way of life in rural and urban Saskatchewan.

We think technology is at it's best when it finds efficient and preferably smal-scale environmentally unobtrusive solutions. They all add up. The Rafferty/Shand does not.

Catherine Christie, Chair, Sask. group,
Sierra Club of Western Canada.

Collins Construction
Box 569
Oxbow, Sask. SOC 2B0

NAME: Cameron Collins

ADDRESS: Oxbow, Saskatchewan

MR. CHAIRMAN, I would like to make a short statement:

I have lived here for a good number of years, as a boy as a matter of fact. I have known this land when it has been dry, also what the price of good water is, if you don't have it.

These dam's have been wishful thinking, up to now. I also know most of the people whom are down on this thing. To the school teacher's in Alameda and the minister, I ask how long have you been here. Moreover if it gets to dry you can just move on. For some we can't.

I would like to say, I am sick of paying for paper's, Sask. cannot afford this, also with over 90% of the people wanting the dam, why are the W.O.P. down on it, I think the people who want more paper work had better start paying for the time they are costing.

Thank you

Glen Ewen, Sask.,
July 7, 1989.

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

My support for the Rafferty-Alameda Project comes from first hand knowledge of what the current conditions are doing to wildlife in the area. I become infuriated with the Canadian Wildlife Federation's position because I know that it is founded on a more than "arms length" assessment. Theirs is more like an "arm chair' knowledge of the area.

Each winter we have starving deer in our fields, sometimes in our front yards, even in our barns. They are a nuisance not only because they feed on, or foul, our stored hay, but also they are terribly sad to see.

The attempts to centralize winter feeding for them or to reimburse us for our losses don't come close to solving the problem. The fact is that deer drifted into this region years ago, when conditions were uncharacteristically good. When more normal conditions prevail, as in recent years, these animals suffer terribly. They are here, in fairly large numbers, but they are not naturally indigent to what is one of the most arid, water scarce regions of Canada. It's foolish to suggest that this area, as it stands, is a natural haven for deer.

The proposals for new habitat for deer as a result of the Rafferty-Alameda Project are bound to be better than what I see happening to them now. In addition to starving in winter, deer suffer in summer from lack of water - their watering places dry up and we find them in the mud of our dugouts.

The point I'm trying to make, is that their current circumstances are not good. The mitigation proposals that I have read for Rafferty-Alameda constitute real action on behalf of wildlife in the area. Before this project, nothing was planned, and if it doesn't proceed, nothing will be done.

The truth, as I see it, is that this project is really the first time anyone has put money and effort into tackling the hardships animals endure here - without Rafferty-Alameda, nothing is likely to be done. There won't be any money, and there won't be any people to do it. Environment Canada should also consider that without this project, people will continue to leave the area and things will continue to decline. Protection and preservation of an environment are expensive targets requiring people to implement those programs. The way our economy is going, we won't be able to afford anything down here.

My hope is that your Department will consider more carefully what will happen here if Rafferty-Alameda doesn't proceed. The consequences to Wildlife will be far more negative than your officials appear willing to imagine.

Yours truly,

Don Cooney

Don Cooney,
Glen Ewen, Sask.
Tel. 925-2128

Oxen Ewen, Sask.
July 7, 1989.

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir:

By the time you read this, I hope your officials will have told you how enthusiastic we in the Alameda area are about the Rafferty-Alameda Project. We turned out to the Environment Canada hearings on June 13 to say how much we need the project. This area did its best to indicate how strongly we favour the project. In Estevan, people gave this Rafferty-Alameda fantastic support. I believe that it's not an exaggeration to say that the vast majority of people recognize how desperately we need this project.

It's big - we need a big project - because we have big problems. We have lost property in floods and we are losing our livelihood to drought. Rafferty-Alameda presents a solution - the only solution - to our problems. There are any number of ways to mitigate environmental impact - but Rafferty-Alameda is the only effective means to conserve water, provide effective flood protection and achieve the regulated water flow that this area so critically requires.

I greatly fear that Environment Canada may lose sight of the objectives, which Rafferty-Alameda serves, while trying to achieve the objectives of their department. There is a fundamental flaw in what Environment Canada wants to do--

they want to protect the environment - essentially by not doing anything to it. Well, we cna't conserve water by doing nothing. That's what's been going on here for generations.

Our priority is water. I believe we can meet our priority while at the same time respecting Environment Canada's through mitigation. I know that Environment Canada cannot meet their priority - doing nothing - and still respect ours - conserving water. We have decades of proof for that.

I'm fighting for the right to keep southeastern Saskatchewan alive...so are my friends and neighbours. I don't feel that I should have to fight Environment Canada. There is a federal responsibility for water and soil conservation. There is federal responsibility for addressing regional disparities. There is federal responsibility for western economic diversification. Rafferty-Alameda fulfils a lot of federal objectives. I urge Environment Canada to recognize this project as a federal priority and to throw the effort of that Department into seeing this project built.

Build it well, build it better, but build it now!!

Yours truly,

Doug Cooney,
Tel. 925-2013

Glen Ewen, Saskatchewan
S0C 1C0

July 8, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

My purpose in writing to your department is to encourage you to think carefully about what Rafferty-Alameda means to those of us who live here. We see it as a once in a lifetime opportunity. Residents of this area are deeply concerned that your department may not be sufficiently aware of the project's value to us.

We have tried, through letters and briefs to your officials to make our case. We have had no response. Hanging over our heads is the threat of more hearings, more studies and more delay.

We have argued our case on the need for water conservation, flood protection, and economic diversification. We also can make an argument on purely qualitative grounds. Rafferty Alameda is a huge investment in our quality of life. There is essentially no contemporary tourism or recreation infrastructure in this part of Saskatchewan. Our local parks

.../2

and campsites are generally dry and scrubby. The water in the Souris is stagnant, lumpy, and smells. We don't generally want to know too much about what is in it much less have our children play in it. (In Manitoba, it is even worse. They put so much local sewage into the Souris it is probably a health hazard.)

The Rafferty-Alameda reservoirs, will be a vast improvement for our area. Parks, beaches, cottages, and campsites will be close at hand, convenient and genuine fun for our families. We are accustomed to dry dusty ball games and picnics, no shade and no water for swimming. The recreation potential arising from two new bodies of water is immense. Our towns and cities have never had cottage sites or boating or swimming facilities. Mainprise Park is the best the area offers and it is very old. Visitation there is half what it once was.

Part of Rafferty-Alameda development strategy is a new, improved Mainprize Park. On the water with all new facilities, a provincial park will be created where none would otherwise have existed.

We welcome what the Rafferty-Alameda Project will do for our communities. We also believe that the result will bring

.../3

tourism dollars our way. New jobs and new services resulting from tourism will also contribute to the availability of higher quality recreation facilities for local people. Surely, regional economic development, water conservation and enhancing quality of life are also federal responsibilities and must get consideration in your review.

I support construction of the project and urge your department to cooperate in ensuring that it proceeds without any further delay.

It will improve the quality of water in the Souris and the quality of life for residents in the area.

Yours sincerely,

Lee Cooney

Telephone: 925-2031

Carlyle, Sask.
SOC ORO
June 5, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

I had concerns about the Rafferty/Alamed. projects similar to those raised in the I.E.E.. The concerns dealt with water control and management. I felt that water is our most precious resource. It is not acceptable to allow this important, vital ingrediant of life to slip away each spring and leave dust blowing in its wake three to four months later. This is unacceptable. After a number of years of drought, you see the need for water. All life, plant and animal, needs water to survive. Seeing the banks of rivers and creeks full of water and then nothing but stagnant pools is frustrating. The extremes of flood and drought cause a large emotional strain. The extremes and overwhelming changes of emotion must stop. The dams can play a role in this.

With a major benefit like flood protection, it is easier to understand why this project is good. Flooding damages all three areas (Manitoba, Saskatchewan and North Dakota). Saskatchewan will definitely see a benefit from the dams. Minot and the rest of North Dakota are counting on the project as well. In fact, the Americans are giving us millions of dollars to build them. How can we pass this up? The protection also extends into Manitoba. It is important to remember that the Manitoba portion of the basin does'nt receive all of its water from theSouris.

This leads to my second concern - water quantity, particularly during low flow periods. Because I do understand the importance of water, I was apprehensive about what the dams construction would cause downstream. Once the roles of the dams were explained, that apprehension disappeared. As I pointed out earlier, not all the water in the Manitoba portion of the basin comes from the Souris River. Pipestone Creek, Antler Creek and many others contribute water to the Souris Basin in Manitoba. The construction of dams and reservoirs in Saskatchewan would have a negligible effect even if all the water was stopped from going through. It should be pointed out that the dams are going to be releasing water continuously over the summer months. Part of the reason is the 50% agreement between Saskatchwan and North Dakota. This flow of water means that the river downstream will be receiving water and passing that water on through. Flowing water is quite simply better water.

The concerns raised by the I.E.E. are valid, but in my estimation have been addressed and mitigated. This project should be a go!

Yours truly,

Sheila Colpitts

Sheila Colpitts
453-6032

RAFFERTY ALAMEDA PROJECT

My name is Donna Cowie. My husband and I are farmers south of Alida, Sask. I was born and grew up two miles from the Souris River, southeast of Oxbow. My father also had land by the river. This land now belongs to my brother and me.

I am taking this opportunity to present my thoughts concerning the Rafferty - Alameda Project. I am 100% in favour of the project and feel that it must proceed as quickly as possible. Nearly fifty years of observation has led me to this conclusion.

This area of Saskatchewan is semi arid much of the time. Periods of drought can be followed by torrential rains but the majority of the water flowing down the Souris is the result of winter snowfall and spring run off. I have witnessed floods in late March and early April which have left the entire valley under many feet of water. Homes have been inundated and roads washed out. Lives were threatened and a couple were lost. When the flood waters receded, the valley floor was littered with broken trees, parts of demolished buildings and garbage. Some of the low land along the river is under cultivation, some in hay and some in pasture. Spring floods are of no help to any of these enterprises. The negative impacts of these floods were minor, however compared to those in Minot, North Dakota. I have witnessed floods there as well.

During years of little snowfall and no run off the flow of water down the Souris is very predictable. By mid summer it will have dropped from its springtime level of a couple of feet to a muddy algae infested trickle. There have been many times during the past few summers that it was possible to walk across the river on my land and never get your shoes damp.

These two scenarios are the result of unmanaged water. The Rafferty and Alameda dams will bring flood control and with it a reserve of water to be released during periods of drought the result being a consistent quantity of better quality water. It makes good sense to hold back the potentially damaging flood waters and put them to good use.

There have been a lot of objections to this project raised by environmentalists, most of whom have never seen the Souris River or Moose Mountain Creek. They profess to know a lot about the ducks, deer and hawks in the valley. As stated before, I grew up close to the river. For the past thirty years I have lived here, twenty miles north of it. I see more wildlife here on any given day than I ever did within two miles of the river. The habitat of birds and animals may be destroyed in the areas covered by the reservoirs but are birds and animals not mobile?

It is my understanding that all possible mitigation efforts are taking place. Can you be sure that the hawks, sparrows and ducks will not go elsewhere to nest? Perhaps to an environmentalist the fact that 1% of the known nesting sites for the ferruginous hawk in Canada will be lost is significant and perhaps to them the fact that five plant species will suffer adverse effects is disastrous. To me the human environment is of a great deal more significance.

The human "environment" of Southeast Sask. will be greatly improved by the dams. Employment opportunities will be here both during construction of the dams and later. Business opportunities will result from the recreational areas created by the reservoirs. Tourism is an expanding industry in Saskatchewan. The dams can only help by providing improved hunting, fishing, camping and boating environments. Irrigation possibilities will offer alternatives to dryland farming. The economic benefits of this project will be felt all along the valley. Water management will also assure an adequate supply of water for many towns and villages in this corner of Saskatchewan.

Please put the interests of the thousands of people affected by this project in first place. BUILD THE DAMS NOW.

Respectfully submitted,

Manor, Sask.
S0C 1R0
July 6, 1989

JUL 1989
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ENVIRONMENT
CANADA
REGINA, SASK.

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

I am a supporter of the Rafferty Alameda project and have followed closely the tangled process which government has applied in getting the project underway. For fifty or more years, we have gone from "build a dam" to "can't build a dam" but this is the first time anybody has come right out and stopped the project now that it is finally started.

It is unbelievable to me that we can come as far as we have only to have the licence revoked and be told that it is illegal to proceed further.

My commitment to the project led me to request a copy of your draft Initial Environmental Evaluation. I have read the summary with care. It was disappointing to me to see how little attention our unanimous support for the project received. When you revoked the licence, you got national coverage. When we in the area demonstrate our support, we don't get a mention on the back page. My hope is that your officials will make sure you know how badly we want the Rafferty Alameda project to proceed. We need the protection that water conservation provides and we need the jobs that will be available in our area as a result of the project. This bring me to the point I want to make in writing to you. On page three of your summary, you refer to the British North America Act. You offer the definition of provincial responsibilities within which the British North American Act "gives the provinces control over property and civil rights". Now, what I want to know is what happens in a dispute - which this seems to be- where the province is building Rafferty Alameda to protect our property and our rights to have that property protected- but you say that you will not let that project be built. I want to know how that gets straightened out fast.

From what I read in the I.E.E., Environment Canada could string this out for a long time. The longer that goes on, the longer we must forfeit our right to protection which the British North America Act promises us. I think it might also be argued that you are limiting our rights and freedoms under the charter by denying our rights to protection.

To have all of this depend on whether we can convince you of the need for the project, when we already have convinced the provincial government and the federal PFRA, is very hard to accept. Also, if the license is granted this time, does it come with a promise that you really mean it?. How do we know we can trust it? How do we know we can trust you?

Contractors are on a 7-day notice to come back,they can't take on other work so the people who are laid off stay laid off. People moved to Estevan for jobs, some of them borrowed money - they still have to pay their bills, but their jobs are gone.

If Environment Canada has a position on what we are trying to do, then as a taxpayer, as a purchaser of that agency's service, I require that position to be one that facilitates - not impedes. If a problem is identified by your workers, then I require that they provide a workable solution at the same time. If you can't give us help, please dont give us bother.

Further, this is an expensive project. We want to keep the costs down because we are the ones paying for it. If the federal government has a shopping list of what they want to add to our project, then I want them to add their money to it with contributions from Canada as a whole, not just add to the costs borne by Saskatchewan and North Dakota residents.

This project can stand on its own. It contains some of the best work of its kind, a lot of community input, and some of the most forward thinking mitigation proposals ever implemented. I think we should have had more credit than we have been given and not had our license revoked. Environment Canada has a responsibilty to ensure that the project complies with the laws of our country,but the Government of Canada has a responsibility to ensure that our right to protect our property is respected ant that we have viable opportunities for income and employment. Regional development and economic diversification, as defined by other Ministers, are key priorities for Western Canada. Rafferty Alameda is consistent with those priorities. It must be allowed to continue with the assistance of Environment Canada, not with obstriction from that department.

Yours truly,

Terry Dickin

Industrial Communications Systems Ltd.
575 King Street
ESTEVAN SASKATCHEWAN
S4A 1K7
• • •
TELEPHONE 634 3783

Mail to Environment Canada
Regina Sask S4P 3R4

Brief for Submission from Mr. Art Dougherty

As a deeply concerned resident of the area affected by the Rafferty-Alameda project, I attended the public meetings hosted by your department and was very alarmed by the narrow focus of the group of "scientists". It appears that Environment Canada is striving to ensure that only issues identified by their Initial Environmental Evaluation can be discussed. In the press I read that our comments must be confined to animals, plants, water quality, and water quantity. We are told that Environment Canada will disregard our comments on local economy or tourism.

This is a huge error on the part of the government of Canada. Rafferty-Alameda was designed for water conservation , economic diversification, and protection of property. The intent of the project is to achieve those objectives while causing minimal disruption to the objects of your concern.

This project will improve water quantity, by improving the flow regime of the Souris, water quality can be monitored and no net habitat will be lost. I do not feel that your department can justifiably demand more.

The need for Rafferty-Alameda is based upon fundamental requirements of southeastern Saskatchewan. I do not feel that Environment Canada can be allowed to ignore these requirements. The project must be allowed to proceed before more of the current construction season is lost.

Art Dougherty

Tom and Gwen Kent
Box 81
Alameda, Sk.
S0C 0A0

We are land owners along the Moose Creek and Shepherd Ravine who will be directly affected by the construction of the Rafferty - Alameda Project. This project is being developed by the Saskatchewan Crown Corporation , the Souris Basin Development Authority. We are presenting this written brief to show our support and concerns for this very necessary project.

This is a project which was first considered on Moose Creek eighty years ago in 1904, the Rafferty damsite was confirmed fifty years ago on the Souris River in 1932. The two waterways, Moose Creek and Souris River are our ONLY source of water in this area. The construction of Alameda Dam on Moose Creek will store water for future use, like previous resavoirs for various reasons. All the previous dams built in Saskatchewan were constructed without public hearings and environmental studies.

Due to the elevation drop, this creek drains very quickly and with drought conditions develops into a series of polluted watering holes. West of Oxbow this creek flows into the Souris River and it has helped to maintain water supplies in dams downstream for years, but has also added to the flood damage in years of abundant snowfall. The 1909 International Agreement with the United States entitles us to use 50% of the water which crosses the border. We have never saved or used our full share of the water. Now with the help of the United States we have the opportunity to construct a dam to save water and help create flood protection for Saskatchewan, North Dakota and Manitoba.

These dams will benefit the people by creating jobs, replenishing small town resavoirs, irrigation in years to come for hayland, pasture land and specialty farm crops. NOTHING can survive without water. Water is needed for all forms of life, for electricity, well drilling, oil industry, farming, all businesses and industries, wildlife and development for recreation, parks and nurseries.

We need the Rafferty Dam to provide the cooling system for the development of the Shand Thermal Station. At times our electrical demands have been insufficient and we have had to purchase power from Manitoba and North Dakota at great expense to tax payers. The water quality is questioned by the environmentalists and those who are opposing this project. The southeast part of Saskatchewan furnishes water to the Souris River [illegible] through the Antler river, Jackson Creek, and Pipestone Creek, to mention a few. Are these water flows polluting the Souris in Manitoba? The Moose Creek is situated in the same top soil and subsoil region. We all know newly constructed reservoirs take time to clear of microbial and chemical decay. Why should they be any different than Boundary Dam, Lake Darling, or Oak Lake? These waterways are all replenished by streams in the Southeast of Saskatchewan. These same waterways will maintain the flushing effect created each spring, as snowfall is usually general in this area.

The water quantity is also questioned. Only mother nature can supply rain and snowfall. We feel that a body of water will bring rains to our arrid area as well as supply humidity to the air.

For the sake of wildlife water can only improve their habitat. Wildlife adapt readily to their surroundings or their environment. It's a sad situation when wild birds and animals have priority over human needs for the construction of this project.

We feel these hearings and more environmental studies are just a form of well manipulated, political schemes by the Canadian Wildlife, the SCRAP (Stop Construction of Rafferty Alameda Project), and the N.D.P. Party to undermine this project. They set out to stop it and will do so at any cost. This opposition has caused the worst kind of pollution, causing mistrust in our government, hard feelings among neighbours, turning farmers against wildlife groups and trying to instill anti - Americanism. Their type of pollution far out weighs any murcury or saline deposits. Our Premier Grant Devine and the people in Saskatchewan who are planning a future from this project were devastated when the license was quashed. How can we be denied the right to have a water supply by a group of people who could care less about others needs?

The pioneers of this country settled beside water. They realized the importance of a water supply and in the Dirty 30's they tried to dam water for future use. If they had accomplished the dams with the uses of horses and men, this area would have a good environment, it would be well populated and developed. Only a water supply can build and maintain an environment.

We helped to build all the dams in our province. We didn't object or deny anyone the chance to store water. We live in one of the driest areas of this province and now it's our turn. Give us a chance to build a future for our children and our grandchildren too. Please read, listen and understand our need for the construction of the Rafferty - Alameda Dams NOW!!

FARMERS on Moose Creek

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WRITTEN PRESENTATION

ON

THE INITIAL ENVIRONMENTAL EVALUATION

OF

THE RAFFERTY/ALAMEDA DAM PROJECT

BY

ENVIRONMENT CANADA

BY

THE GAIA GROUP

ON

JUNE 30, 1989

Dear Mr Chairman, I would like to address you in the concerns about the Rafferty/Alameda Dam Project as being reviewed by your department My concerns are about two things, the global and local implications of this project

Locally, you have already identified massive and minor environmental changes to the river valley, either by the reservoirs or by the change in the water regime of the valley because of the reservoirs The determining factor in this decision-making process is whether these changes will be such that the integrity of the river valley will be changed and that the ecosystem that has developed over the millenium is worth more than the benefits addressed by the project, namely recreation, irrigation and flood control

Our organization says that they are They are for a number of reasons

You have addressed a great number of the strictly numerical problems with the project, namely the impacts on the water quantity, water quality and the impacts on the flora and fauna of the basin

If we live within the bounds of the ecosystem we call the Souris River Basin, then the natural cycles will be the mechanism for change and the changes will be mitigated by their own stopping measures, namely moisture, temperature and natural selection We can also begin to develop economic scenarios that will compliment this system of control rather than work against it We can develop businesses that are less destructive to the environment than the industries now planned for the basin We can suppliment the farming communities with locally-based economic growth that is more sustainable than the industries now planned for the basin We can also implement recovery plans for the flora and fauna that is endangered or threatened of being eliminated We can begin to remove all of the destructive activities from our society and be a model for other countries and provinces in how to be truly sustainable

If we only slightly modify the flow of moisture down the stream, then we work within the natural systems of the basin by only creating small aborations in the flow of the river, most of which the ecosystem can compensate for in its regular flows These slight changes could be small check dikes across the river at strategic places that perhaps naturally flood in the wetter years These areas could then mitigate some of the concerns about flood control that is being talked about in North Dakota and Estevan If we develop the economic system I have already outlined the need for the irrigation and recreation will be eliminated and the true needs for economic stability will be met

If we drastically modify the river flow in the basin as what the two dams proposed would do, the ecosystem would be taken out of the picture, a scenario that has had only disasterous results as any man made system atests This scenario will only result in unrealized expectations that we feel would not be met We will continue to loose more plants and animals in the ecosystem of the prairies We will continue to erode the soil off the prairies and into the oceans We will continue to spew toxic chemicals into the air, water and land We will confirm the expectations of the greenhouse warming by continuing to depend on the fossil fuels We will continue the myth that we can in fact create the ecosystem that will sustain the species on the planet

I have addressed the scenario that has local impacts I have also touched on the impacts that will be global in nature But more importantly, we must as a society get away from the megaproject syndrome We will not be able to sustain the society we think we can maintain with the thought that another megaproject will provide the growth and the jobs and the controls that are necessary for society

We therefore recommend that the minister, Mr Bouchard, not approve the project and call for a full environmental assessment of the project We further recommend that the scope and the intent of the project be changed or altered to comply more with a sustainable economic system that is based on ecological sustainability A system that your government and the Government of Saskatchewan have adopted through the National Task Force on Economy and the Environment

Yours respectfully submitted,

Jim Elliott, President,
The Gaia Group
2258 Rae Street,
Regina, Sask S4T 2E9
ph 306 352 4804

Note: I have included a package of materials from our organization so that you are aware of the principles that we work with in reviewing society and the protection of the environment

Rural Municipality of Enniskillen No. 3

OFFICE OF THE ADMINISTRATOR

TELEPHONE (306) 483-2277

OXBOW SASKATCHEWAN S0C 2B0

June 22, 1989

Hon. Lucien Bouchard
Environmental Minister
House of Commons
Ottawa, Ontario
K1A 0A6

Dear Mr. Bouchard,

We, as the Council of the R.M. of Enniskillen No. 3 at Oxbow, Saskatchewan whole heartedly support the construction of the Alameda Dam.

The Rafferty and Alameda Dam Projects will be the best investment anyone could make as we all know how important Water Management is in this area.

Respectfully yours,

cc. Environment Canada

Council & Reeve of
R.M. of Enniskillen No. 3

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Comments on
Environment Canada's
Rafferty-Alameda
Initial Environmental Evaluation Draft

I wish first to thank the Minister for the opportunity to be able to make this presentation to this hearing board regarding the Initial Environmental Evaluation of the Rafferty-Alameda Project.

It is most gratifying to learn that Environment Canada share my view that the original Environmental Impact Study was incomplete and did not deal adequately with many environmental issues.

It is common knowledge that many economic gains will be felt in the immediate vicinity of the reservoirs but can we allow this mega-project to continue when it has never been proven that there are not alternative options available and the natural environment of the Souris River Valley will be utterly upset.

I will now comment on each of the issues of this project that fall under the jurisdiction of the federal government.

1. **INTERNATIONAL WATERS** The Souris River Drainage Basin lies in an historically semi-arid region of the Great Plains. Careful study of all hydrologic data, since 1912 when it was begun to be gathered, will indicate that the Rafferty Reservoir will not likely ever fill; especially if the expected conditions of the greenhouse effect caused by environmental damage outside the basin should occur. The widely fluctuating water levels will have adverse effects on water quality, especially at low water levels, and will certainly have a negative effect on the wildlife of the area. As stated in the Water Management History section floods do occasionally occur and "management of this erratic water supply is a prerequisite to economic prosperity within the basin". A structure the magnitude of the Rafferty Dam is not the best solution. By constructing smaller reservoirs strategically placed and developing large permanent marshes, downstream flooding can be reduced while at the same time maintaining a river of good quality water. Offshoot benefits would be recharging of underground aquifers by raising the water table and enhancement of wildlife habitat. The establishment of upstream marshes would as well slow down the rush of water in spring runoff thereby reducing the major problem of increasing erosion of agriculture lands.

Irrigation and recreation may not be within the mandate of Environment Canada directly, but indirectly it is. If this study determines that water quality will be poorer than was projected by SBDA projected recreation will suffer and water for irrigation will not be allowed to be released to flow downstream.

2. **MIGRATORY BIRDS** The lost productivity of up to 26,000 ducks is very serious and absolutely unacceptable at a time when waterfowl populations are at all time historic low numbers and when money is being pumped into waterfowl habitat enhancement in other parts of the province through the North American Waterfowl Management Plan. Mitigation of losses in Canada is probably possible by development of suitable habitat in the upper basin and reestablishment of the drainage freeze with added severe penalties for law breakers. The loss of 22,000 ducks hatched annually in North Dakota due to lower water levels and decreased water

quality is practically unmitigatable. We can not allow this loss to happen. Of information deficiencies on page 27 the most critical is the fifth - "a description of the land-use monitoring program that would be implemented in order to confirm that further drainage of off-river wetlands was not occurring". If wetlands are not protected and enhanced in upstream areas, no manner of mitigation will maintain waterfowl populations in the Souris River Basin.

Other species of protected migratory birds are ignored by the original SBDA EIS and almost again by Environment Canada. Changes to the Souris River Valley both by the establishment of the reservoirs and subsequent changed downstream habitat due to changed flows and elimination of spring floods will affect other species. Both the eastern bluebird and the orchard oriole would appear to use the river valley as a corridor to expand their territory north and east. How many other species also use river valleys as migration routes and nesting territory and how will it effect these species at the edge of their range. Loss of woodlands due to drying out of oxbows will have a serious effect on the breeding habitat of the eastern-screech owl as well as redheaded woodpecker, which is being seen with some regularity in Southeast Saskatchewan, as well as the other woodland nesting birds.

3. **FISHERIES** - I do not know a great deal about fish but realize from what I read in the IEE Draft Summary that there will definitely be losses downstream and that the poor water quality with high mercury levels in the water of the reservoirs will do nothing to offset these losses.

4. **FEDERAL LANDS** As stated in the IEE the only federal lands to be adversely affected by the construction and reservoir are the two PFRA pastures, Estevan-Cambia and Lomond #1. Mitigation of replacement lands on a carrying unit for carrying unit is certainly acceptable for the pasture operators and patrons, however if the pasture acreages are reduced and the habitat is changed from native grasses to forage crops wildlife may suffer. Not only will the ferruginous hawk be affected but also the Baird's sparrow and other grassland nesting species. Certainly the impacts could be reduced if the new acres of pasture are of similar ecology. Also all acres which will be removed from federal jurisdiction but not directly flooded should be placed by the provincial government into the Critical Wildlife Habitat Protection Act to prevent their being cultivated. The best habitat for both the ferruginous hawk and Baird's sparrow is intermittently grazed pasture, proper grazing techniques brought into practice in all leased pastures could certainly go a long way in preserving many species of native grassland wildlife. This certainly in not under the jurisdiction of this panel but a recommendation could be made to all government agencies to look into their land use policies. Chemical use of federal land is certainly one of the areas that needs looking into.

5. **RARE AND ENDANGERED SPECIES** As I have mentioned earlier and as is stated in the IEE one of the major impacts on the wildlife of the Souris Valley will be loss of suitable habitat and no amount of mitigation can replace proper habitat. If that habitat exists elsewhere now, it is being used by the same affected species; giving it added protection will certainly keep it available for wildlife but it will also put added strain on those acres by adding displaced birds and animals from the reservoir area. Data would appear to be lacking on rare and threatened species, and for this reason further study is required. Personally while camping in the area I have observed loggerhead shrikes along the valley edge in adjacent coulees in larger numbers than is stated in the report. As well there appears to be discrepancy between Environment Canada and the SBDA as to how many ferruginous hawk nests will be directly and indirectly affected, as well as the amount of mitigation that would be required. This aspect certainly requires more study both in the field and literature study regarding the requirements of the rare and endangered species which nest and migrate through the area before proper mitigation can be determined. Habitat protection and enforcement of these required laws in the lower basin from Estevan to the international border should be guaranteed to retain thriving wooded areas along the stream channel and oxbows.

Loss of rare plants is again a serious problem. It is certainly encouraging to see that now an extensive catalogue of rare plants is presented in the IEE. Identifying these plants however is not enough. Protection of these species for future generations is now the key, and the major impact -drying out of oxbows due to loss of spring flooding- has hardly been looked at. Should the project proceed, plants lost by inundation of the reservoirs is unmitigatable as stated on page 40. Downstream loss is a totally different matter. Not only must cultivation and irrigation be controlled but also the flooding of existing semi-permanent oxbows could be accomplished through the use of the irrigation equipment which will be brought into the valley.

In the licence signed by the Saskatchewan Minister of the Environment one of the conditions to be met by the proponent is the establishment of one or a number of ecological reserves. Nothing has been done so far. One of the conditions recommended by this panel is that this condition be met before proceeding with construction and that the location and protection of these reserves meet with the approval of the Hon. Lucien Bouchard, Minister of Environment Canada, as to their protection of rare and endangered flora and fauna of this unique ecoregion of short grass prairie in southeastern Saskatchewan.

6. **NAVIGABLE WATERS** The only comment I wish to make is that this is a beautiful water system in its present state and can be enjoyed by canoe and small boat. Both the existence of long reservoirs, channelization to speed water to the international border, probable extra dams for irrigation water retention in future and subsequent reduced flows will turn this water travel into an obstacle course.

Thank you for the opportunity to make this presentation and I do hope that you will recommend further study and I am sure that the minister will determine that the damage to the environment will far outweigh any short term economic gains for only a few and this project will be altered using the present completed construction and other alternatives to enhance and protect this region for future generations.

Repectfully Submitted

Robert Ewart

Carlyle, Sask.,
July 5, 1989

JUL 1989
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ENVIRONMENT
CANADA

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

For over a hundred years, spring floods on the Souris have been recorded. Generally the wet springs are followed by very dry summers. For over 50 years, we have known what it would take to improve the situation. We are close enough to our North Dakota neighbors to have seen how they have turned water storage to their advantage and to know that they have done it with our share of the water from the Souris. I don't begrudge what the U.S. has achieved, if we cannot get our act together to use what water we've been given, then maybe we deserve what's happened so far. But we sure don't deserve what's happening to us now.

We worked our butts off to get government on our side to build the Rafferty-Alameda Project. We presented our case to every agency we could get to listen. We lobbied every politician - whatever his stripe. We went to public meetings, we made it an issue for local candidates in municipal, provincial and federal elections.

I thought we had made our point, that government had heard what we had to say - and I can not express how angry I am to have seen the fruits of our effort, of our commitment, destroyed because a series of bureaucrats couldn't agree on how to comply with their own rules.

Quite apart from what it has cost this community in lost hope, I want to make the point of what this fiasco is costing the taxpayer while our project - and I mean our project, the one we worked for - is on hold. The figure I got is that a 90 day hold up is costing us about $ 6 million. That's about $67,000 per day of taxpayers money. A one - year holdup is going to cost an extra $12 million for Rafferty with an extra escalation of costs resulting from delays at Alameda of $3 million.

We were barely able to convince government to spend the money for the dams we need as it was - only the U.S. involvement and the industrial application at Shand made it feasible. Now, with your fiddling with your license, your inability to live up to your commitments, you are putting a lifetime's work and dreams and hopes in jeopardy.

I am telling you to decide in our project's favour, and to decide fast. We, who live here, who participated in the planning and development of the project, are prepared to take responsibility for it.

Yours truly,

Environment Canada
Inland Water Directorate
1901 Victoria Ave
Regina, Saskatchewan
S4P 3R4

As a supporter of the Rafferty-Alameda Project my intent in addressing this hearing is to urge you to allow the project to proceed.

I have lived in the area most of my life and am an enthusiastic hunter. A large number of members of the wildlife support organizations are hunters. We recognize that to ensure good sport, we need to make an investment in wildlife protection and preservation. Sometimes, however, the objectives become blurred. 'Personally and I put this bluntly. I protect ducks in the spring because I intend to hunt ducks later, in the fall. We don't protect deer because they are cute, we protect them because we plan to hunt them when they are sufficiently mature.

Strategic maintenance of wildlife populations is required. There is currently no strategy underlying what is happening in southeastern Saskatchewan. I've lived here long enough to see that nature itself creates great hardship for indigent animal life.

The fact that we have broken as much land as we have has distorted the natural pattern and there has been no mitigation. Roads, highways , rail lines, mines and indeed towns and cities have also had impact. I doubt very much if the existing pattern could be described "natural".

In my view, the wild life mitigation approach taken for Rafferty-Alameda is strategic. It gives us an opportunity to establish optimum targets and to set standards for achieving those targets. Further, there is a built in flexibility that I find reassuring.

This project can provide solid water resource management that will benefit wildlife and may serve to stabilze healthy populations of animals. I encourage Environment Canada to assess the project's ability to address some of the environmental damage that has already occurred, and to provide protection from the devastation of flood and drought that frequently occur within a harsh, demanding natural framework.

B.D. Farough
Box 1085
Estevan, Saskatchewan
S4A 2A7

TS&M SUPPLY
DIVISION OF TECHNICAL SALES & MAINTENANCE LTD

June 22, 1989

Environment Canada
Inland Water Directorate
1901 Victoria Avenue
Regina, SK
S4P 3R4

Over $20 m of construction work was to come to this area this year, as a result of the work on Rafferty and about 70% of that work was assigned to local firms. We, in the industry, looked to that project as a major opportunity to keep local companies active and to provide jobs for people in the area. We judged this project to be of tremendous value. Many of us have experienced flooding and personal loss to property over the years. We have lived here and we welcomed the opportunity to be part of such a dynamic water management scheme. There is great satisfaction in using the resources of our company to contribute to the construction of a facility that you know will help friends, family and your community.

As professionals in the Supply & Service industry and as residents of the area, I have been impressed with the Authority's commitment to ensuring minimal disruption to either the environment or the residents. Mitigation plans for wildlife, wetlands and fisheries were tied to construction at the earliest stages of project planning. Every effort has been made to ensure that project construction will be undertaken with the deepest possible commitment to ensuring that disruption will be minimal. Obviously some is inevitable but I want to assure you that we, too, are interested in protecting this part of the province. The Authority has demonstrated its commitment to local hiring and local contracting - I believe that this further reinforces the probability that this project will be constructed as an environmentally sound project. We believe that people from this area, are best able to assess the positive potential benefit that Rafferty-Alameda will bring to us. I look forward to more than new business opportunities - the recreational capacity of the reservoirs is very appealing to a population like ours.

The project has been a very long time coming - I don't want it to slip through our fingers now. Quite apart from the loss to me personally, I

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ENVIRONMENT
CANADA

Box 28 114 Kensington Ave Estevan Sask S4A 2A2
Phone 634 6494 Fax 634 2599

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think that to not proceed, would mean a tragic loss to people who live here and for whom this project represents flood protection, potential for economic stability and major enhancement in the local quality of life.

T S & M SUPPLY

Dale Fox

DF/rlm

ENVIRONMENT CANADA
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Edward and Geraldine Gervais
Box 150
Alida, Saskatchewan
S0C 0B0

Ladies and Gentlemen:

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JUN 1989
ECL
ENVIRONMENT CANADA

Our names are Edward and Geraldine Gervais. We live in the Village of Alida, we are self employed and have been in the trucking business for twenty years.

We are writing to be certain that the board is aware of the benefits for tourism and recreation to our community and surrounding area.

We are open and aware of the communities, people and environment around us and feel that one of our sources for recreation in the future is the saving of our main natural resource.

The increase in recreational facilities would keep the people in the community using our own facilities that could be provided.

The lakes we now use for recreation are man made or enhanced, such as Lake of the Prairies, Oak Lake, Round Lake, Moosomin Lake. We could support our own or a few and wouldn't have to travel miles to find recreation. A reservoir on the Alameda/Rafferty would provide fishing, boating, camping and hunting. The area and surrounding communities would benefit as a tourism attraction and we would enhance the beauty of our countryside.

Job opportunities for our people and our students would be realized. Winter sports and activities could be provided and utilized by our schools.

We have been members of the Saskatchewan Wildlife Association for several years and feel that the Wildlife species would benefit from a water source in the area. Due to the lack of water in the Moose Mountain Park, Whitebear Lake Resort, the need for another water source is more pressing.

We realize the Rafferty-Alameda Project will take years to fully develope but future generations will benefit. The negative impact from the project can and will be overcome by the positive aspects of the government.

We fully endorse the Rafferty-Alameda Project and encourage others interested in tourism and development to do the same.

Respectfully submitted,

Edward Gervais

Edward Gervais

Geraldine Gervais

Geraldine Gervais

Alameda, Sask
July 7/ 1989

Dear Mr. Bouchard

I am writing to you as a person who attended all of the public meetings held at the end of June. It scares me when a few radicals can stop a project that they don't have anything to do with. Hippies like Mr.Dolecki should not be able to shut this down just for their own political good. I don't think people like that should be able to teach our children either. And Lorne Scott only wants attention for himself.

The people who live here know the land and the animals that we live with. We don't want to hurt the animal or plant life in the area, but we also want a life for our children. The dam project will help make the area better for our children and our animals. The SBDA has assured us that they will have no net loss of habitat - I don't know what more you could want. This is a lot better that what was done for the animals when the N.D.P. built dams when they were in power.

Please realize that this project was stopped only for political reasons. The N.D.P. think it is a good idea but can't admit it because they are too stubborn. **PLEASE LET US BUILD FOR OUR FUTURE.**

Alameda Sask.
July 6/89

Dear Mr. Bouchard

I am writing to you on behalf of Alameda and rural, who signed our petition 92 % strong in favour of the Alameda - Rafferty dams.

I also made a point of going to all the towns in southeastern Saskatchewan and talked to the people. I had thirty two mayors and the Cheif of White Bear Reserve sign a petition in favour of the dams. The mayors of each town know the feelings of their people and it's evident 90 % of the people of southeastern Saskatchewan are in favour of the dams. It's our environment, we live here.

Mr. Lorne Scott sided with the N.D.P. not with wildlife region 4 # five thousand strong. Region 4 # are the wildlife members who live in the whole southeast corner of Saskatchewan. They know what the situation is! Lorne Scott is to busy hasking in front of T.V. cameras to know our situation. We have no water for wildlife habitat, we want to createit, he is against it, where is he coming from? He is against draining wet lands, and against creating wet lands. He is all in favour of saving birds and deer, but also in favour of slaughtering both by the thousands. Lorne Scott went on national T.V. and said he is not against the project then he shows up in front of the cameras at the I.E.E. meeting and again runs down the project. I question his credability! I refuse to buy a wildlife membership while he holds his position most feel that way. He lives one hundred and forty miles from the project at Indian Head Sask.

David Susuki had a documentary on T.V. July 5/89, he said 80 % of the ducks and geese are produced in Canada, 80 % are shot or wounded in the U.S.A. One duck in four is retreived, three fly away to die. Three hundred @ fifty thousand tons of shot gun lead pellets are shot into our environment every year. Ducks and geese eat them and die of lead poisioning by the thousands! I have'nt heard Lore Scott Complain.

If Lorne Scott is really concerned, stop shooting ducks and geese. Is it possible his politics are more important? If so he has the wrong job. All the members of region 4 # are dam tired of him spending their money to fight our own project, that will enhence wildlife . While the U.S.A. kill millions of our birds , Lorne Scott is worried these dams may cause a loss of forty three hundred birds. Do we give up our lives and jobs so other people can shoot birds?

Ducks Unlimited is funded by the U.S.A. and they spend millions of dollars in Canada (thats o.k. with me) for creating wildlife habitat, thats o.k. with Lorne Scott , but when we want to create our own wildlife habitat he's against it. Where is he coming from?

The law said we in Saskatchewan can keep 50 % of the water. I would like you Mr, Bouchard to answer my letter and explain to our people, how we can conserve our 50 % of the water, if we don't build the dams. Remember these valleys only flow in the spring from snow melt, after the melt is gone we end up with only stagnant pot holes of water.

Manitoba is poorly informed about the Souris river, they beleive it has a natual flow. If it wasn't for the U.S.A. knowing how to conse water, by building twenty one dams on the Souris, all the water would b gone to the Hudson Bay. Manitoba would have potholes with stagnant water the same as us.

Manitoba don't know our situation, they beleive we will stop the flow of the water year around. North Dakota control the flow for Manitoba not us. They want a flowing river while we sit bone dry ! Is that fair? I don't think so. When our dams are built and full of water, they will once again receive 100 % of the water. We have given them all our water since 1959 when the agreement was signed. Thirty years of free water is enough, it's our turn, we have to preserv our water by building the dams.

I attended all seven of the I.E.E, meetings and heard one Hundred and fifty six speaches. People in favor of the dams out numbe those against 121 to 35. I sat an observed a number of things.

Regina Meeting:

(1) note out of 25 speakers nine were against, six of them known N.D.P.

(2) Not one of them lived anywhere near the project.

(3) Mr. Rod McDonald lawyer for S.C.R.A.P. Paid over 100,000.00 to stop the dams from the Tetsleff brothers in Alameda. Known N.D.P. lives in Weyburn Sask.

(4) Mr. Bob Lyons N.D.P. dam critic paid to run down the project .

(5) Mr. Gerry McKinney Known N.D.P. I question his credability- I followed his radical letters to the editor- signed all diffrent ways. Once from Regina, once from Saskatoon, once as Dr. etc . He also claimed he had four and a half million people backing him to stop the dams, with letters to prove it. When asked to

produce the letters he could'nt. Why write lies? He lives in Saskatoon "Radical" I will attatch letters signed diffrently

(6)Mr. David Orchard N.D.P. Free Trade critic,who is Disgruntaled with the P.C. government. He openly said in the paper he is so mad, he decieded to join S.C.R.A.P. against the dam project. He Started Fabricated stories about a ploy to give all our water to the U.S.A. Finished his speach by saying the U.S.A. don't need the water anyway. " radical " He also attacked Sousin Washington with the I.EE. accusing her of being an american in the ploy to take the water.

All the above speakers and their followers Were one associated group. I observed them jumping up and down and slapping each others backs after each speach.

Oxbow Meeting-

(1) 100 % in favour of the dams

Estevan Meeting :

(1) Out of 27 speakers only one was against.

Kelita Meeting :

(1) out of 16 speakers only three spoke against.

02) two were politicians , from Winnipeg

03) Dunkan 'tewart Associate of Gerry McKinney " radical" against everything. Close freind of Joe Delecki and most of the one' s who spoke in Brandon,and Souris. He was frothing at the mouth when he finished his speach. Then he went and basked in front of the T.V. cameras,he was in his glory.

Minot meeting :

(1) Thirty sprakers only one was against.

Souris meeting :

(1) Seventeen speakers , seven against.

(2) The speakers against were poorly informed- they were followers of Duncan Stewart and Joe Delecki

(3) The speakers were very rude to the Saskatchewan people insinuating we had no buisness there.

(4) The rule was only one per family or assOciation could speak, on two occasions man and wife spoke breaking the rules.

Brandon meeting :

(1) Noted hippie type of people agaist the dams.

cont'd Brandon Meeting :

(2) John Piohman - N.D.P. critic political

(3) Joe Dolecki - Radical- (not one thing about the I.E.E. was any good) rolling his eyes as he spoke, has ponytail and forgot to shave. He is working with the Tetslaff brothers from Alameda, also has close ties with Rod McDonald,Duncan Stewart,and Gerry McKinny,most of the speakers have close ties with all the above speakers.

(4) Ruth Prysner - T.V. camera lady with big mens boots. She set her camera on the podium and went to bask in front of her own camera. Told us she marched on Washington D.C. on similar issues. Talk about a biast media.

In conclusion I heard speakers, say navigation of the river would be in trouble. Some speakers were not aware there was two dams involved. Most speakers wasted parts of their speech by drifting off into politics or the economy.

The media, Regina Leader Post and the Star Phenix owned by the same people, have been very biast against the project. They have carried only one side of the story, leaving their readers poorly informed. It's not fair to southeastern Sask. Our small local papers carry both sides of the story.

Mr. Bouchard if you let these small groups of radicals stop these dams, you will be doing Saskatchewan a great injustice. Please give your approval and get on with building the dams.

JUL [illegible]
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[illegible]

Alameda, Saskatchewan
S0C 0A0

July 5, 1989

Environment Canada
1901 Victoria Avenoue
Regina, Saskatchewan

Dear Sir:

Please accept this as my brief on the Rafferty-Alameda dams. My concern deals with the wildlife. The I.E.E. says there will be a loss of wildlife habitat because of the inundation of the valleys caused by the dams. With the loss of habitat, the I.E.E. states, there will be a loss of birds. However, with the proposed wildlife habitat mitigation and a policy of "no net loss" of waterfowl habitat which includes the seeding of neighbouring land to the valley back into the native grasslands, it will create waterfowl habitat in the area. It is the creation of this waterfowl habitat that will allow far more waterfowl and wildlife to settle around in the area.

I am from Saskatchewan and I know what wildlife requires. I kow the environment and I know the prairies. In the past couple of years, I have seen the Souris River and Moose Mountain Creek dry up so that there is no water moving and the wildlife had to leave. Every living creature needs water to survive. Animals, plants, birds, fish and people all need water. If they don't move away, they die and it is with this that I ask you quite simply to build the dams. The dams are for the benefit of the people and wildlife in the area. We need the dams. There are no if's, and's or but's about it.

Birds and animals go to where the water is. In my opinion, it is simply irresponsible to say that the wildlife will in someway be harmed by the creation of dams and reservoirs and the retention of the much needed water in the area. How can they possibly be harmed if we are allowing for water, life's greatest necessity, to stay in the area for life.

Thank you.

Yours sincerely,

Layne Gibson

Telephone: 489 2235

Alameda, Sask.
July 8, 1989

Environment Canada
1901 Victoria Avenue
Regina, Sask S4P 3R4

Dear Mr. Bouchard,

I want you to know the feelings of the young people in Alameda. I am a young man who wants to spend my life in this part of the province. I want you to know how important this project is to this area and the young people who live here. Most of the young people in the area have watched their parents fight with flood and drought and, with the blessings of their parents, have moved out. I am worried about what this means. Is this whole corner of Sask. going to be left to shutdown?

According to 1988 SHSP statistics, 30% of Alameda's population is over 65. There are fewer and fewer young adults and as a result fewer children. Without young people, this part of the province has no future. To get young people back and to hold ones like me who are still here, there has to be some opportunity for us.

The Rafferty-Alameda dams represent a major opportunity to rebuild. It will attract people to make this their home and build our community up again. Income and employment can turn this area around.

The government of Canada has a responsibility for the well-being of people who live here, not just for the environment.Rafferty-Alameda will trigger many new initiatives that will bring income and employment to this part of the province. The project must be allowed to go ahead.

Yours truly,

Lindsay Gibson

I am writing to ensure that Environment Canada is fully aware of the extensive public support for Rafferty/Alameda in the project area. It seemed to me that at the recent public meetings, very little, if anything, was said about the many meetings we have had in the past, on the same subject. I want you to know that there is real ,significant public support for Rafferty/Alameda.

Since 1986, over 700 meetings with landowners and over 150 meetings with interest groups, the public and interested municipalities have been undertaken with the Souris Basin Development Authority. There has been plenty of opportunity for anyone and everyone to become as aware as they wanted to be of Rafferty/Alameda. The information has always been available and the office in Estevan has gone out of their way to be helpful. I doubt if any other project has ever tried as hard to be open and above board with the public as this one.

A poll taken by the Souris Basin Support Association indicates that roughly 80% of Rafferty landowners affected support the project. Eighty five percent of the privately held land in the Rafferty reservoir area has already been acquired by purchase. There has been no expropriation. In addition, other landowners have indicated voluntary interest in selling their land to the authority for wildlife or pasture mitigation.

The Rafferty/Alameda project is recognized for its value to the prosperity of this area. We were ready when work at Rafferty started, to throw all of our effort into that project. We are prepared to do it again when the license is reinstated. We believe that the project can take us into the year 2000 and guarantee the health of our communities for years to come.

Surely, now that we have an opportunity to solve a major regional problem, we should not let this opportunity pass. I respect concerns about the environment but people are also part of that environment and overall, this project can do a great deal of good for people. I urge you to allow it to proceed.

Colin Grunert

Mr. Colin Grunert
505 Milne Cres. Estevan Sk
306-634-7189

Rafferty-Alameda Project

Environment Canada
Regina Sask

Stacey Grunert
505 Milne Cres
Estevan Sask
634-7189

My purpose in writing is to raise concerns regarding how Environment Canada has handled public meetings on Rafferty/Alameda. Of particular note, is the impression we have been given - in the press and by your officials- that Environment Canada will not consider arguments, which do not directly relate to birds, fish, rare and endangered species, navigable waters and international waters.

How can a project like Rafferty/Alameda, which was not designed to meet optimum in any of those areas, be judged only on them? In my view, this is unrealistic and unreasonable in the extreme. We don't raise cattle for fertilizer and we aren't building Rafferty/Alameda for benefit of ducks. I for one leads to the other, fine , but let's keep the intent of the project clear.

Rafferty/Alameda is a "multiple objective" water conservation project that will lead to provincial parks, mitigation, flood protection, water supply for the town of Midale and numerous other benefits. It is designed to be environmentally "friendly" as they say, not as a panacea to environmental ills.

What Souris Basin Development Authority is providing has the endorsement of virtually everyone in the project area. It deserves Environment Canada's as well.

Stacey Grunert

Environment Canada
1901 Victoria Ave.
Regina Sask

Caroline Guest
1594 Wahlmeier Dr.
Estevan Sask
634-6930

I regret very much that the future of the Rafferty and Alameda project is now jeopardized while more information is sought. I personally feel that sufficient work has been done and I have no doubt that the Souris Basin Development Authority's plans for mitigation and compensation are among the best of their kind. Nothing like this was proposed for Diefenbaker and I doubt that even Canada as a whole has seen a similar effort before. Over 40% of the project budget is dedicated to local development benefits tied to the project mitigation strategy.

I would like to see Environment Canada give credit where it's due. Rafferty and Alameda research should have been heralded in the exemplary effort of it's kind. The feature detailed in the wildlife mitigation approach are innovative as well as effective. The environment will be well served by this project and I would like this to be recognized.

Thank you.

Caroline Guest

IN AFFILIATION WITH THE

WEYBURN NATURAL
HISTORY SOCIETY
BOX 411
WEYBURN, SASK.
S4H 2K8

RECEIVED
ENVIRONMENT
CANADA

June 20, 1989

Environment Canada
1901 Victoria Ave.
Regina, Sask.
S4P 3R4

Attention: Mr. B.M. Burns

Dear Sir:

Please do not expect this letter to comment on the pros and cons of the Rafferty-Alameda project. We write to you with the assumption that our opinions, one way or another, can only be speculatative and that the study process which this letter is part of will decide the pros and cons in a sensible and accurate way. In that light, we are neither for nor against the development. That should be an obvious stance, otherwise why are we having the study? If we propose to know the impacts and the solutions before the study process provides the information, we, like the Government of Saskatchewan and other pro-Rafferty groups, would be jumping to conclusions and this research like many others end up being, will be nothing more than copious amounts of erroneous and meaningless rhetoric. In good faith, we believe that this is not the intent of your department. But, we make no bones about it! It is the study which is the issue for us, not only for those habitats administered by the Federal Government, but also for those under Provincial jurisdiction.

We feel it is appropriate, however, to re-emphasize some of the subtle realities about the world we live in. The state of the world wide natural environment is at an extreme low ebb, especially when we consider the drastic reductions of habitat, the vanishing species and the pollution of our waters and atmosphere. We feel that we are at a point in the history of the world where compromise in this area is no longer acceptable. When we ponder developments everywhere which diminish habitat, threaten species or pollute the environment, it seems urgent to us, given our sad state of affairs, to avoid the negative aspects completely, as opposed to cashing in to reap the perceived and so called economic benefits. As part of the world community, we should not entertain any such trade-offs.

At a recent conference on sustainable development held in Winnipeg on May 17, 1989, the Right Honourable Joe Clark presented a paper to an international audience pertaining to the environment and the economy. Portions of his report refected some wise observations and I quote a few:

- "A fundamental problem of contemporary society is how to reconcile our economic goals with the natural systems of our planet."
- "Environmental change resulting from our economic activities means that economists can no longer assume a predictable environment. They must calculate the costs of modifying production processes now as compared to the future costs of failing to modify them."
- "Sustainable development is about how to make hard choices in situations of scarcity; it is not a way of having your environmental cake and still enjoying the same level of economic development."
- "The economy-environment interactions implicit in sustainable development involve an ongoing balance of human harvesting of nature, strategic preservation and anticipating and preventing disasters rather than reacting after the event."

The members of the Weyburn Natural History Society want the representatives of Environment Canada to pay heed to Mr. Clark's wise counsel. Further, it is hoped that your study adheres to all of the conditions of valid research, including a process which has scientific integrity, conducted by persons who do not have to answer to any government or authority for the results. If this occurs we are confident that the study will evoke a sensible decision from the Minister of the Environment within one of the four general areas listed on page 11 of your initial environmental evaluation draft.

Trying to do the most good and the least harm simultaneously is a difficult but essential objective to strive for in this study. The members of this society would like to contribute in the attainment of that goal. If we can help in other ways, count on us.

Thank you for your kind consideration and attention.

Yours sincerely,

Richard Gutfriend, President
Weyburn Natural History Society,
Box 411,
Weyburn, Sask.

Attachments 1.
From the Blue Jay & The Blue Jay News
- both publications of the Saskatchewan Natural History Society.

Brief:

Harvey Hackney, 1853 Alice Road, Estevan, Saskatchewan, S4A 1G7, Telephone 634-3015

I was three time president of the Estevan Wildlife Federation and a past executive member of the provincial Saskatchewan Wildlife Federation.

I have reviewed the draft IEE Summary report and the 300 page evaluation report document and would like to make some comments about them. When I first read the smaller draft summary report, I was rather surprised and upset when I got to the lists of impacts and deficiencies. I must tell you that some of the things I read I found hard to believe so I wanted to get more information. When I got the larger evaluation document, I found it to be far more balanced and objective then the Draft Summary, which seemed to summarize mainly the negative impacts and deficiencies.

I think the Draft Summary should have had another table, which listed the positive impacts and the federal interests that were addressed, not just those that were not.

It seems to me that once the federal government got its knuckles rapped by the courts for not following their own guidelines that they felt they better hit this project hard and make an example of it. Now I firmly believe it will measure up to the federal evaluation, but I don't think it's fair to be nit-picking a bunch of little things. I realize

that the federal review is only looking at areas of federal interest, but I don't think they have been fair or completely accurate. I think these scientists have some more to do.

I think it should be pointed out in all fairness to the Souris Basin Development Authority and the provincial government that if the federal government officials had done their job in the first place, we likely wouldn't have to be here today.

Rather then deal with the rhetoric and the emotional arguments so often put forward by people on both sides, I'd like to keep the rest of my comments to the draft IEE report.

1. It was interesting to note that the conditions attached to the provincial approval for the project were only quoted for mitigating the community pastures. (Page 9-2) The federal officials seemed to think this was OK as far as the P.F.R.A. pastures are concerned. The conditions in the Saskatchewan Environment approval that dealt with no net loss for wildlife, or fisheries, or water quality, or rare and endangered species were not quoted in those sections. This seems to me to be a flaw in the draft IEE reports.

2. It seems to me to be rather inconsistent and rather strange that the mitigation proposed by the Souris Basin Development Authority for community pastures was taken into account, but the extensive mitigation plans for waterfowl and fish and other wildlife was not. Weren't these scientists aware of the millions of dollars of wildlife mitigation?

3. The Draft IEE goes on and on about the impacts on fish and waterfowl in North Dakota but again they seemed to ignore all the mitigation that the U.S. Army Corps of Engineers proposed down there. The Americans are planning to spend millions of dollars on their side of the border as well as help us build our dams. I don't see that any of the United States mitigation for Lake Darling or their wildlife refuges was considered at all. This seems to be a rather one-sided picture you've painted.

4. The federal scientists, who were doing this review must have been in a bit of a hurry since there are some pretty obvious errors and other omissions. Let me point out a few of them:

-On page 6-30, it says that Rafferty water would be discharged to supply water for irrigation and for cooling the Shand Generating Station. I believe the Shand water will be transported by pipeline, not the river.

-On page 8-33, it is suggested that as an experiment, the topsoil and sod should be removed from one of the reservoirs to see what effect it would have on mercury. I don't know who thought that one up, but I suppose it would be a good make work program for someone, if they had a few million dollars that no one knew what else to do with.

-On page 9-7, Roughbark Creek is referred to a couple times as Roughneck Creek. Now, I know there are some roughnecks in the oil patch over towards Goodwater, but I didn't know the creek was named after them.

-In Section 10, the report goes on about the loss of habitat for ferruginous hawks and the Baird's sparrow. These losses are considered to be significant. Now I'm no specialist on birds but it seems to me that field mice and gophers like grasslands and hawks like mice and gophers. If there are thousands of acres of land being seeded to grass for the community pastures and the wildlife lands - how could there be such an impact on the hawks and sparrows?

-I've saved my comments for the loss of ducks till the last because that section really got me going. I think these scientists will have to go back to their calculations again on this one.

One page 7-11 of the Draft IEE report, it says and I quote "The primary purposes of the Upper Souris National Wildlife Refuge, containing 12,950 hectares of wetlands, are production of waterfowl, provision of the other necessities in the life cycles of waterfowl and water supply to the J. Clark Salyer National Wildlife Refuge."

It goes on to say that "the two refuges together are referred to by the U.S. Fish and Wildlife Service as the "jewels" of the refuge system."

The annual duck production at the Upper Souris Refuge averaged 3733 yearly for the 20 year period from 1968 to 1987. The greatest number of ducks produced at this refuge was 12,426 in 1963. Now remember these numbers. 3733 ducks produced per year on average from this jewel of the refuge system managed for that purpose. Now remember also that was from 12,950 hectares or 32,000 acres of managed wetlands.

Now I'd like to draw your attention to the conclusions reached on page 7-18 that the average number of ducks, which could be produced annually in the Rafferty and Alameda reservoir areas should be considered to be 4331 ducks.

Now I'd like someone to explain to me how these two pieces of valley in Saskatchewan, which together are half the size

of the Upper Souris Refuge, could possibly be producing more ducks on average, than that refuge.

With the droughts, we've had the past few years, I'd like to know where these people figure these ducklings learned to swim or get a drink. The river, all the way from the Rafferty Dam site up to Dead Lake, was bone dry. You could walk in the bottom of the river.

Now even if there was water in the river, how could this piece of river, which runs through 3 community pastures, produce more ducks on average than on 32,000 acres of managed wetlands in the Upper Souris Refuge?

I have to ask someone the question as to why they even bother to run the Refuge there, if this dry piece of valley west of Estevan produces more ducks every year? There might have been 4,000 one year, like there were over 12,000 one year at the Refuge, but I doubt there would be that many every year.

Now if that isn't enough to swallow, the IEE report goes on to say that these two reservoirs, when full, would only produce a total of 183 ducks, that was 143 ducks at Rafferty and 49 ducks at Alameda. Now who can believe those numbers? I sure can't! Won't the ducks just move to the sides or upstream? Won't we get more diving ducks?

Finally the report goes on to say that the impact of our reservoirs on waterfowl production in North Dakota will be an annual loss of 21,824 ducks down there and a further indirect loss of 4,365 ducks in Canada because of that.

Well, I've got to tell you that I can't believe these numbers for a minute, they make no sense to me at all.

With projected numbers like that, there's no wonder that they think there will be a significant impact on waterfowl. These calculations are ridiculous as far as I'm concerned.

Further the report does not deal with the surrounding areas. Many ducks build their nests in fields far from water. When the ducklings hatch they must get to water within 24 hours and they can walk up to a mile to get there. If there is no water, all these ducks die. If Rafferty were in place, thousands of newly hatched ducks could find water and thereby increase the total production of ducks.

Also with the creation of a large body of water, we would see an increasese in different types of ducks such as Red Heads and Canvass Backs. We would also see flocks of pelicans and cormorants such as are presently found on Boundary Dam.

Now, I don't want to be accused of being totally critical, like I said the IEE Summary report was, but I think some of the other so-called specialists like the people in the Wildlife Federation should have questioned these numbers.

Is it any wonder the environmentalists and wildlife people get so excited if they believe these numbers.

In conclusion, I want to point out that I'm sure glad this was only a draft evaluation and not the final one that will get referred to the Minister of the Environment. This will give the duck scientists a chance to sharpen their pencils and come up with some numbers that are reasonable and believable and I hope they do not forget about Canada Geese. When they do, I'm sure that common sense will prevail and Saskatchewan can get on with the job.

I support the Rafferty-Alameda projects, and hope others, who do too, will write Environment Canada and say so.

Thank you.

Harvey Hackney

Brief for Rafferty
Submit by Mail
June 10th,1989

Environment Canada
1901 Victoria Ave
Regina Sask S4P 3R4

There must be a touch of reality in assessing the environmental impact of a project the magnitude of Rafferty. Chiefly, one must recognize that I support construction of the project because it is going to support us in fighting those features of the environment that now work against us. We have been stuck with a river that currently serves no useful purpose and frequently causes damage. We want to change that.

It stands to reason then, that in setting out to change a river, one is thereby altering the environment. The product of change is change and that's that.

I argue that the change represents improvement. We increase the capacity of drought prone land, reduce negative impact on flood prone land and in so doing, effectively turn the river to advantage. A substantive portion of Rafferty cost is dedicated to preservation and protection of wildlife. No net loss of habitat, and effective habitat management is a substantial improvement over nature's current commitment.

This is a good project; the tradeoffs are manageable. Let Rafferty and Alameda proceed.

Murray Halvorson
1718 Mc Cormick Cres.
Estevan Sask

UNIVERSITY OF SASKATCHEWAN

THE W. P. FRASER HERBARIUM

SASKATOON CANADA

July 7, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, SK S4P 3R4

Dear Sirs:

Since I was unable to attend or to make a formal presentation at the public meetings in latter June, 1989, re the Rafferty Alameda Project, the attached written brief is being submitted

Enclosed also is a copy of a report that I had completed in April 1989 on the "Distribution and Status of Provincially Rare Plants in the Souris River Valley, Southeastern Saskatchewan". Although a copy of this report had been sent to Environment Canada: Office of Environmental Assessment and Review, and also to various others, in early May 1989, the reviewers of the rare plants portions of the recent (June 1989) draft Initial Environmental Assessment by Environment Canada did not reference it, and appear not to have been aware of it, or to the additional information contained in it on the rare plants of the Saskatchewan portion of the Souris Valley. Instead they referred only to the limited and much abbreviated, quite preliminary information on this rare plants project that I had given to, and permitted the consultants, Environmental Management Associates, Ltd., to use in their report, "Vegetation Resources of the Proposed Alameda Reservoir (Moose Mountain Creek) with Special Emphasis on Rare Plants"

Sincerely,

Vernon L. Harms

Vernon L. Harms
Professor & Herbarium Curator

/ha
Encl

JUL 1989
RECEIVED
ENVIRONMENT
CANADA
REGINA SASK

A BRIEF

CONCERNING THE ENVIRONMENTAL IMPACTS

OF THE RAFFERTY-ALAMEDA PROJECT

July 4, 1989

My environmental concerns about the proposed Rafferty-Alameda Project are focussed on its potential effects on the natural vegetation and on the numerous provincially (and some nationally) rare native plant species present in the Souris River valley in southeastern Saskatchewan.

The Souris River valley of southeastern Saskatchewan represents one of the botanically most unique regions of the province, containing an unusually high concentration of provincially rare native plants. Nowhere else in the province are so many provincially rare native plant species concentrated along such a narrow corridor as are found along the linear extent of the Souris River from west of Estevan to the North Dakota border. Because of this linear concentration of many of the rare plants only within the main Souris Valley itself, they, and especially those of floodplain habitats, appear highly vulnerable to a predictably altered Souris River water-regime resulting from the proposed major dam constructions. When rare species and their habitats are destroyed in any region, it represents essentially a permanent loss; once these habitats, or those portions including the rarest species, are gone, they are not truly replaceable, and thus can not be considered to represent "renewable resources". We owe it to ourselves and future generations not to destroy our natural heritage, including the rare native plants, for merely short-term political and economic, and in this case highly questionable, gains.

Occurring along the Souris River from near Estevan to the U.S. border, are riverine deciduous woods dominated by Manitoba Maple (Acer negundo), Green Ash (Fraxinus pennsylvanica), and American Elm (Ulmus americana), and locally near Oxbow also some Bur Oak (Quercus macrocarpa) These riverine woods downstream from the proposed dams, and the natural species they contain, including some provincially rare plants, appear threatened by the proposed dams, since the survival of such natural floodplains woods is dependent on the river's natural seasonal ebb and flow, particularly the natural spring flooding cycles. The native plants of the other floodplain vegetational types, such as marshes, wet to drying meadows, shrublands, etc., are also finely tuned to the natural water regime, including the seasonal and cyclical flooding; and depend on it for survival. To quote some excerpts from Kevin van Tighem, "Clots in Nature's Lifeblood - the Ecological Effects of Dams in Canada", published in Borealis vol. 1(2): 35-41, in Spring 1989:

> "Most people, to the extent that they think of dams as being hard on rivers, assume that the damage is confined to the reservoir area. But ... one large dam can radically alter a whole river ... The influence of a large dam is ... profound and it extends a long way downstream ... the construction of a dam is based on the idea of a river as a water resource. But the fact is a river is far more than so much water running downhill ... Running water is merely the common thread that binds the river ecosystem together; a river's biological complexity is almost beyond comprehension. Hydraulic engineers can begin to predict a dam's impact on the river and its bed, although even here they are often surprised by reality, but they usually fail to predict the areas of damage large dams inflict on downstream ecosystems. ... The whole floodplain is a dynamic, living system ... the river deprived of its silt, its seasonal cycles, and much of its water, is no longer able to sustain ... its floodplain, and its ecological complexity ... we have paid a high environmental price for cheap hydropower, regulated water supplies, and flood protection ... whatever benefits dams may provide to consumers, rivers and riparian ecosystems are almost inevitably hurt by on-stream dams ... We have lost rivers, valleys and ecosystems that should have been protected as national treasures ... Canada's rivers are a priceless and irreplaceable part of our natural cultural heritage ... Canada's surviving wild rivers and riparian ecosystems are valuable not only for their ecological complexity, historical significance and intrinsic worth, but, sadly for their rarity ... our understanding of river ecosystems has barely begun to catch up with our technical capability to exploit them ... It is time to try and save the few that remain." ... "It should be one of the hardest decisions in the world to dam a river!"

In my opinion, the original Rafferty Dam environmental impact assessment was highly deficient with regard to its study of the flora and vegetation. It concerned itself only, and not very thoroughly (i.e. the inventory included only about half of the plant species to be expected there), with the plants of the actual Rafferty Dam reservoir area. It failed entirely to consider the vegetation and rare native plants along the Souris River Valley downstream from the dam site that surely would be much affected by the altered water regimes and seasonal flooding cycles.

The rare plants of the Souris River Valley are mostly concentrated downstream, not upstream, from the proposed dams, so the major environmental threat to them is not from the inundation of their habitats by the reservoirs, but from the alteration of the water-regime of the Souris River Valley floodplains (and probably also of the lower bluff slopes) downstream from the dams. Despite the impressive valley dimensions largely carved out by the voluminous melt-waters at the end of the last glacial age, the present Souris River is for most of the year a quite meager stream. With average seasonal rainfall, it will predictably take many years if ever for the respective dam reservoirs to fill. Serious water-deprivation of the Souris River channel and valley floodplains downstream below the dams will result, as well as a marked alteration of the occurrences, times and levels of natural seasonal and cyclical river highwater and floodings upon which the native plants on the floodplains are finely attuned and depend for their survival. A significant lowering of the natural groundwater table level in the whole or much of the downstream floodplains is to be anticipated, adding further to the potentially disastrous results for the still remaining natural vegetation and its included rare native plants.

About 40% of the provincially rare plants listed for the Sourish Valley occur in the various floodplain and river-bank habitats, - e.g. open or shrubby shorelines, riverine woods, shore shrublands and moist floodplain meadows, which would be most directly affected by alterations of the river-channel flows, lowered water-levels, and reduction of the natural cycle of springtime inundation of the floodplains. With the proposed dam construction and planned usage of the Souris River water, a serious reduction of the water-flow downstream from the dams is anticipated, with it even becoming much more discontinuous than at present with extensive dried channel stretches during most of the year. Accentuation of the problem of altered water-regimes is further threatened by the planned construction of small weirs on the Souris River downstream from the dams for the intended purpose of creating multiple reservoir ponds for irrigating floodplain forage fields, serving to further diminish the total quantity of water-flow, changing the natural seasonal water level fluctuations, and altering the natural shorelines, essentially

modifying the natural riverine shoreline habitats along a flowing stream into unnatural lacustrine-like ones along a series of intermittant ponds. Also the proposed channelization of the Souris River for about a 10-mile stretch below the Rafferty Dam to near Shand, involving not only the deepening of the present river channels but also a cutting across of present channel loops, potentially endangers the rarer shoreline native plants by alteration of the natural shorelines.

The provincially rare native plant species that appear threatened by the construction of the Rafferty and Alameda Dams because of their occurrence on Souris River shores or floodplains downstream from the dams, are the following: Great Solomon's Seal (Polygonatum biflorum), Wood Nettle (Laportea canadensis), Silky Milkweed (Asclepias syriaca), Creeping Bittersweet (Celastrus scandens), Creeping Love-grass (Eragrostis hypnoides), Jerusalem Artichoke (Helianthus tuberosus var. subcanescens), Pale-green Bulrush (Scirpus pallidus), Heavy-fruited Sedge (Carex gravida, also rare for Canada), Assiniboia Sedge (Carex assiniboiensis, also "marginally" rare for Canada), Prairie Bird's-foot Trefoil (Lotus purshianus, also "marginally" rare for Canada), Nannyberry (Viburnum lentago), American Plum (Prunus americana), Lance-leaved Heal-all (Prunella vulgaris var. lanceolata), Western False Gromwell (Onosmodium molle var. occidentale), Switch Grass (Panicum virgatum), Blue Skullcap (Scutellaria lateriflora), Thicket Creeper (Parthenocissus inserta), Buffalo-Grass (Buchloe dactyloides, also rare in Canada), Whorled Milkweed (Asclepias verticillata, also rare in Canada), and Whorled Milkwort (Polygala verticillata).

The other approximately 60% of the Souris Valley native plant rarities, not characteristic of the actual floodplain or river-bank habitats, but mostly occurring at higher elevations in either wooded or open tributary streamlet ravines, bluff woods, shrublands, and on prairie bluff slopes, are also often dependent on the maintenance of high enough ground-water table levels on the bluff slopes of the river valley. It appears uncertain to what extent the markedly reduced river-flows, reduced spring floods and altered water-regimes downstream from the dams might effect a lowering of the natural ground-water table levels of the valley bluff slopes above the river floodplains and thus threaten the rare plants of these habitats, but some effect is anticipated. If the Shand Power station reverts often to ground-water wells for cooling, as seems likely with the expected low reservoir levels, the effect on the aquifers and the ground-water levels may be quite drastic in the Souris Valley, especially in the Estevan to Pinto region where the distribution of so many rare plants are centered. Some rare plants characteristic of streamlet ravines and lower grassland bluff slopes, that appear quite dependent upon seepage moisture, and thus threatened by any lowering of the ground-water table levels, are the following: Tomentose Pussytoes (*Antennaria neodioica*), Side-oats Grass (*Bouteloua curtipendula*, also rare in Canada), Flat-stemmed Spike-rush (*Eleocharis compressa*), White-flowered Parsley (*Lomatium orientale*, also rare in Canada), Prairie Bird's-foot Trefoil (*Lotus purshianus*, also "marginally" rare for Canada), *Oxytropis lambertii* (Lambert's Purple Locoweed), Switch Grass (*Panicum virgatum*), White Milkwort (*Polygala alba*, also rare in Canada), Indian Grass (*Sorghastrum nutans*, only a single site, north

of Pinto, known in Saskatchewan), Blue Vervain (*Verbena hastata*), Big Bluestem (*Andropogon gerardia*), Lance-leaved Heal-all (*Prunella vulgaris* var. *lanceolata*), Whorled Milkweed (*Asclepias verticillata*, also rare in Canada), Whorled Milkwort (*Polygala verticillata*), Buffalo-grass (*Buchloe dactyloides*, also rare in Canada), Rigid Sedge (*Carex tetanica*, also rare in Canada), and Crowfoot Violet (*Viola pedatifida*).

Besides the numerous rare plant species downstream from the dam sites that would be threatened by habitat alterations, some known sites for rare plants would also be in danger of eventual inundation by the dam reservoirs. Among the recorded rare plants that eventually would be subject to certain inundation by the Rafferty Dam Reservoir if projected "full-supply" water levels of 550.5 m (=1806 ft.) are reached, would be the northwesternmost native colonies known in North America of Jerusalem Artichoke (*Helianthus tuberosus*) recorded near the confluence of the Souris River with Roughbark Creek west of Midale and the known colony of Lambert's Purple Locoweed (*Oxytropis lambertii*) recorded on the Souris River bluff slopes south of Macoun, below the 1800 ft. contain lines on the 1:50,000 topographic maps. Most probably inundated as well would be the recorded colony of Wilcox's Panic Grass (*Dicanthelium wilcoxianum*, also rare in Canada) along Roughbark Creek near its confluence with the Souris River, occurring at just about the 1800' contour line. It certainly would be below the "maximum flood level" of 554 m (=1821.6 of the Rafferty Reservoir, and likely also very near or below the "full supply level" of 550.5 in (=1806.1'). The recorded colony of Prairie Bird's-foot Trefoil (*Lotus purshianus*, "marginally" rare in Canada) recorded from along lower Jewel Creek, occurs between the 1800' and 1825' contour lines and thus between the "full-supply level" and the "maximum flood level'. Most of the known colonies of Side-oats Grass (*Bouteloua curtipendula*, also rare in Canada) and of Prairie Cinquefoil (*Potentilla finitima*, also "marginally" rare in Canada) occur as well at about the 1800 to 1825 foot contour level, and similarly to the latter, may be threatened by the "maximum flood levels" of the Rafferty Reservoir, although other known colonies occur at somewhat higher elevations. The single record for Engelmann's Spike-rush (*Eleocharis engelmannii*, also rare in Canada) from along a tributary of Roughbark Creek near Colgate seems to be from a site well above the reservoir high-water levels.

Three extremely rare species in Saskatchewan all occurring together at one site, and two at another nearby site, west of Estevan, appear very possibly threatened by proximity (within one-half mile) to the actual planned construction activities of the Rafferty Dam and associated projects such as the proposed diversion channel from Boundary Dam, the access road to Highway 18, and the relocation of the CPR tracks. These plants are the locally sparse and provincially very rare clay flat species: Whorled Milkweed (*Asclepias verticillata*), also rare in Canada, Buffalo Grass (*Buchloe dactyloides*, also rare in Canada), and Whorled Milkwort (*Polygala verticillata*). These same species would also appear threatened by an alteration of ground-water table levels downstream from the dam. The recorded local colonies of the provincially rare grasses, Side-oats Grass (*Bouteloua curtipendula*, also rare in Canada) and Big Bluestem (*Andropogon gerardii*) at the Rafferty Dam construction vicinity would

almost certainly be destroyed, but, unlike the latter three species, in their case there are fairly numerous other Souris Valley colonies.

Subject to certain inundation by the Alameda Dam Reservoir, would be the colonies of Prairie Bird's-foot Trefoil (*Lotus purshianus*, also "marginally" rare in Canada), Switch Grass (*Panicum virgatum*), Side-oats Grass (*Bouteloua curtipendula*, also rare in Canada), and Jerusalem Artichoke (*Helianthus tuberosus*), and all of the various recorded localities for *Andropogon gerardii* (Big Bluestem) along lower Moose Mountain Creek. The two recorded sites for Lance-leaved Healall (*Prunella vulgaris* var. *lanceolata*) in the Moose Mountain Creek Valley at about 10 and 14 mi. north of Oxbow, respectively, are at elevations between the 1850 and 1875 foot contour lines of the topographic, occurring somewhat above the "full supply level" (562 m = 1844') but possibly below the "maximum flood level" (567 m = 1860'). The known colonies of Rigid Sedge (*Carex tetanica*, also rare in Canada), White Milkwort (*Polygala alba*, also rare in Canada), and of Lambert's Purple Locoweed (*Oxytropis lambertii*) in the Moose Mountain Creek Valley above the Alameda Dam, the first two about 10 and the latter 6 miles north of Oxbow, are at higher elevations on the bluffs and may be able to persist above the Alameda Reservoir high water level if their habitats are not too altered.

Personally I am convinced that the Rafferty-Alameda dam construction project would drastically alter the delicately balanced natural water regime of the Souris River Valley, potentially endangering the still surviving natural vegetation, including the rare native species. This is a major concern because the Souris River valley in southeastern Saskatchewan represents one of the botanically most unique regions in the province, containing an unusually high concentration of provincially rare plants. Mostly in the relatively narrow corridor (usually 1-3 miles wide) of the immediate Souris River valley (but usually not the tributaries beyond the main valley and the overall watershed), there have been recorded a total of 36 provincially rare native plants, of which 9 are also considered rare in Canada and 5 others "marginally" rare in Canada (i.e. omitted at least in the final draft of "The Rare Vascular Plants of Canada" by Argus and Pryer); 12 are considered "endangered" in Saskatchewan; 17 are ranked as "especially rare", and 6 others as borderline rare to "especially rare" in Saskatchewan. Eleven rare plants for Saskatchewan are known only from the Souris Valley, and two others only from the Souris plus the adjacent Antler River Valley. Eight rare plants on the Souris are known only from a single local site, two of which represent the only Saskatchewan records for the species, and six others are known from but two sites in the Souris Valley. (See the attached table for a list of the provincially rare plants with abbreviations to indicate their respective rarity status. Also see the attached distribution maps.) The approximately 20-mile stretch of the Souris River channel from several miles west of Estevan to near Pinto has a particularly high concentration of known rare plants and is the only part of the Souris Valley in which have been found such species as Whorled Milkwort, Whorled Milkweed, Buffalo Grass, Assiniboia Sedge, Climbing Bittersweet, Nannyberry, Tomentose Pussytoes, White Parsley, Silky Milkweed and Indian Grass.

With regard to the federal Initial Environmental Evaluation (June 1989), I have several minor comments and criticisms to make,

although as a whole, I can only commend the federal reviewers for having done an excellent and knowledgeable job. The description of the vegetation given for the project setting in Section 4.1.3 on p. 4-3 is extremely brief and rather incomplete, in particular omitting any mention of the characteristic, rich, ash-elm-maple hardwood riparian woods along the main Souris River from Estevan to the North Dakota border. However, my main focus here is on Chapter 10 - Rare and Endangered Flora. A major shortcoming of the federal IEE (June 1989) was the failure of the reviewers of the "rare plants" portion to reference or use the expanded information available from my own recent, April 1989, report on the "Distribution and Status of Provincially Rare Plants in the Souris River Valley, Southeastern Saskatchewan", although a copy of this report had been sent to the Office of Environmental Assessment and Review of Environment Canada, as well as to many other interested parties, in early May 1989. The federal IEE referenced and apparently used only the limited and much abbreviated preliminary (mid-1987) information (list and map) that I had permitted the project consultants, Environmental Managements Associates, Inc., to use in their report, "Vegetation Resources of the Proposed Alameda Reservoir (Moose Mountain Creek)..."

Following below are several comments with regard to some of the rare plant species of "national significance" discussed or listed in the Federal IEE report. To my knowledge, neither the Smooth Cliffbrake (*Pellaea glabella* var. *occidentalis*) or Tumble Grass (*Schedonnardus paniculatus*) was included on either the preliminary or final drafts of Argus and Pryer's "Rare Vascular Plants of Canada" lists. The Smooth Cliffbrake is considered a provincially rare species in both Saskatchewan and Manitoba. Tumble Grass had not been included on the Saskatchewan list of rare plants but it is borderline to being so considered. Of significance here, the four largest local populations of Tumble Grass ever seen in Saskatchewan by the writer were those from south and west of Estevan - all appearing quite vulnerable to destruction from the Rafferty Dam construction. Two of the Tumble Grass local colonies were closely associated with those of the rare Buffalo Grass (*Buchloe dactyloides*), and at least one of these colonies appears endangered by the overall Rafferty Dam construction activities. Thus this species is vulnerable in Saskatchewan as well as in Manitoba (Section 12.8.2.3 on p. 12-23). On page 10-29 under Section 10.4.4, the included discussion of Engelmann's Spike-rush (*Eleocharis engelmannii*) deserves a comment. This appears to represent a very rare species in Saskatchewan, Manitoba, and for Canada, but only if it is taxonomically separated, as I think it certainly should be, from such other species as *E. obtusa* or *E. ovata*. But the reviewer would appear to have been "lumping" it, as some authors have done (e.g. Boivin's *Flora of the Prairie Provinces*; McGregor et al. *Atlas of the Great Plains Flora*), with the above species, in which case it would hardly be considered rare at all, either for Saskatchewan or Canada.

Although I can understand the reasons for the federal environmental reviews' emphasis on the "rare plants of national significance" rather than the Saskatchewan rarities, I believe someone should speak for, and more of a case should also be made for, the preservation of the habits of provincially rare plant species. From recent personal experiences it is indeed doubtful that the present

Assessment Branch of Saskatchewan Environment has such knowledge, interest or concern for the botanical aspects of Saskatchewan's natural heritage.

The "Response to Draft Federal Initial Environmental Evaluation: Rafferty-Alameda Project" by the Souris Basin Development Authority, dated June 21, 1989, contains some inaccuracies, distortions and non-valid conclusions, in my opinion, that are deserving of comment.

The SBDA Response noted that "none of the plant species identified on the COSEWIC list are present within the Souris River valley or Moose Mountain Creek valley (p. 27)". But it should be clarified that, although in 1978 the "Committee on the Status of Endangered Wildlife in Canada" (COSEWIC) did enlarge its mandate to include plants, as well as birds, mammals and fish, botanists, especially those in Western Canada, have rarely integrated their work on rare plants into this formal wildlife system. Very few rare plants in all of Western Canada, and only 2 in Saskatchewan, have been incorporated into the COSEWIC lists largely because of a general lack of funding and enough qualified botanists to write up the required status reports. Thus at this time, the COSEWIC List is essentially meaningless and highly distorted with regard to rare plants, at least for Western Canada, including Saskatchewan.

The SBDA response stated that "a review of the historical site localities for each of the 5 nationally significant species reveals that none are located within the FSL (full supply level) of either the Rafferty or Alameda reservoirs and hence would not be affected by inundation" (p. 33 and 4-5). But the federal review actually had identified a total of 19 rare plant species of "national significance" in the Souris Basin, indicating that 5 of these were particularly threatened by the project. As discussed earlier, Wilcox's Panic Grass (called "Witch Grass" in the federal report, Dicanthelium wilcoxianum), a both provincially and nationally rare grass species, was recorded from along lower Roughbark Creek at about the 1800' contour line, where it appears likely threatened by inundation of the Rafferty Reservoir at the "full supply level" of 550.5 m (=1806.1') and would be at the "maximum flood level" of 554 m (= 1821.6'), in contrast to the statements made on p. 34 in the SBDA Response.

The SBDA Response includes, besides some inaccuracies, quite a number of apparent part-truths and subtle distortions, which seem to represent an overall attempt to downplay either the threats to, or the importance of, the rare plant species in the Souris Valley. The statement that three of the species "listed as rare in Canada (Bouteloua curtipendula, Potentilla finitima and Andropogon gerardii) are generally considered to be no longer provincially rare" (pp. 28-29), is erroneous for two reasons, (1) because, with its regional restriction and mostly small local populations, Bouteloua curtipendula (Side-oats Grass) is still retained as a provincially as well as nationally rare species, while (2) Andropogon gerardii (Big Bluestem) has never been considered nationally rare. The statement that all of the rare plant species found in the reservoir areas also "occur elsewhere throughout the Souris River and Moose Mountain Creek valleys and in other parts of Saskatchewan" (pp. 4 and 35), is rather an overstatement. Three plant rarities found in the reservoirs - viz. Lance-leaved Hasiall, Jerusalum Artichoke and Switch Grass - are not

found in other parts of Saskatchewan but are limited to the Souris River and its tributaries, and the first is known from only one other Souris River site. Other species (e.g. Prairie Bird's-foot Trefoil and Jerusalem Artichoke) also have a quite limited known occurrence in the Souris Valley, rather than "throughout" its length.

Some distortion seems apparent with the assertion that many of the 5 plant species of "national significance" (actually the 5 of 19 indicated in the federal report) occurred in habitats of "dry, bare, eroded slopes or coulee crests rather than within the immediate valley bottom" (p. 5). But only Dicanthelium wilcoxianum and possibly Lomatium orientale occur on "crests", while species such as Buffalo Grass and Whorled Milkweed are more characteristic of valley bottoms and lower eroded clay slopes with their unique microhabitat moisture regime. Besides on bluffs, White-flowered Prairie Parsley may occur on upper grassy floodplains and prairie benches. The 1987 EMA field studies, which I believe were limited to the Alameda Dam Reservoir along Moose Mountain Creek,could then hardly have confirmed that these 5 "nationally significant" species "were for the most part, associated with dry, sandy, coulee slopes and crests" (p. 334), since none of these 5 plants were found there. Gentianopsis procera does not "occur at fairly frequent localities in its Saskatchewan range"(p. 35), but the occurrence of this species is now discounted in the Souris Basin region.

The statement, "that rare species located on the active floodplain largely occur within a fairly restricted area near the river channel proper where moisture conditions are more favourable" (pp. 36-37), is incorrect except for those limited to the true riverine woods since other rarities variously occur on either lower, middle, or higher floodplains, and at the valley-edge bluff-bases.

In referring to the channelization that will occur along the 16 km between the Rafferty Dam site and the Shand Generating Station to expedite the flows, the SBDA Response stated that "this segment of the Souris River does not support a high density of rare plants" (p. 38), but this is patently false since actually one of the highest densities of rare plants along the Souris River occurs here (see attached map).

The "detailed floral surveys ... conducted in 1987" (p. 40), I believe were limited to the Alameda Reservoir region along Moose Mountain Creek, and the plant species lists in the EMA 1988 report included only those in the representative vegetation and range assessment plots, except for the rare plant occurrences which I personally contributed. Total floristic lists for the sites were not included; but nevertheless the Alameda Reservoir flora was far better inventoried than had been that of the Rafferty Reservoir earlier, the former field study not done by EMA. The SBDA response stated that "downstream of the reservoirs, one nationally significant plant (heavy-fruited sedge) and 12 provincially rare plant species could be affected" (p. 4 & 35-36) However, as outlined earlier, I would consider that 4 of those plant species identified as "nationally significant" by the federal IEE report (actually 5 if Tumble Grass, Schedonnardus paniculatus, on the federal IEE list is included, since it also appears quite vulnerable where recorded in the Estevan area) and at least twice the above indicated number of provincially rare plants, are potentially threatened downstream from the dam reservoirs. The arguments that there will be adverse downstream effects on the

vegetation and on rare plant species can hardly be discredited by saying that such ecological processes and successional changes are not fully understood. It seems quite clear from parallel situations that natural floodplain vegetation with its complete floristic spectrum, will not survive in the long-term unless the floodplain itself is preserved as such.

The proposed "establishment of ecological reserves" downstream from the dams "to protect known locations of rare plant species", sounds fine, except if the dam projects proceed such "ecological reserves" would likely no longer represent true "natural areas" but rather unnatural partially salvaged sites, perhaps even with artificial water levels having to be maintained by weirs. Artificially maintained or reclaimed "park" areas certainly do not substitute in any real way for the preservation of our natural heritage lands, with their total spectra of native fauna and flora. In my opinion, proposed "ecological reserves" downstream would not represent satisfactory mitigation measures if the dams were to be built. If the major, river-altering Rafferty-Alameda Project is allowed to proceed, the predictable loss of downstream natural floodplain woods, shrublands and meadows, and the irretrievable depletion of many rarer native plants in at least these habitats, would seriously reduce or negate the viability of proposed natural area sites. We can not save the riverine forests or the natural floodplain marshes and meadows, with the full spectra of native plants composing them, including the rarer species, without protecting the floodplains as such. The indicated "over-bank flooding" frequency downstream from the dams of perhaps only 1 in 50 years (pp. 4 & 36) could not be expected to maintain the present natural floodplain vegetation, including the total native flora of the riverine hardwoods and meadows. Rather than serving as any sort of mitigation or "modification", as seems to be implied on p. 4-5, downstream irrigation development (weirs, etc.) can be expected to substantially increase the potential negative impacts on the natural flora and the rare plant species present as discussed earlier. At best, the following statement seems ecologically quite naive: "Downstream irrigation development is not expected to have any impact on nationally significant or provincially rare plant species as this development will not include clearing of natural vegetation " (p. 4-5). But clearing is not the only way the natural floodplain vegetation can be destroyed, an alteration of the floodplain water regime so that it no longer is a floodplain, will accomplish the same end. The further statement that since "no clearing of floodplain forests is proposed for the project ... no impacts are expected on the 5 nationally significant plant species and similarly, none, if any impacts are expected on the provincially rare plants"(p. 30) is simply unacceptable to me, as discussed earlier.

It is indeed heartening to note that the SRDA Response recognized that "the Souris River and Moose Mountain Creek valleys represent a significant botanical region in the province, supporting an unusually high concentration of rare plants both within a provincial and national context", and that "the SRDA recognizes the botanical importance of maintaining species diversity within the boundaries of Saskatchewan and Canada as a whole, irrespective of the fact that such species are more widespread elsewhere" (p. 26). The

depth of their commitment for this, however, is suspect from the various apparent distortions and inaccuracies subsequently appearing in their response.

Because the Rafferty - Alameda Project will predictably have such serious environmental effects, it is hoped that it will not be allowed to proceed. At the very least, I believe that thorough botanical studies by truly independent and unbiased persons should be required before any permission be given for such a project to proceed.

Vernon L. Harms

Vernon L. Harms, Ph.D.
Professor of Biology (Botany), and
Curator of the W. P. Fraser Herbarium,
University of Saskatchewan, Saskatoon, SK.

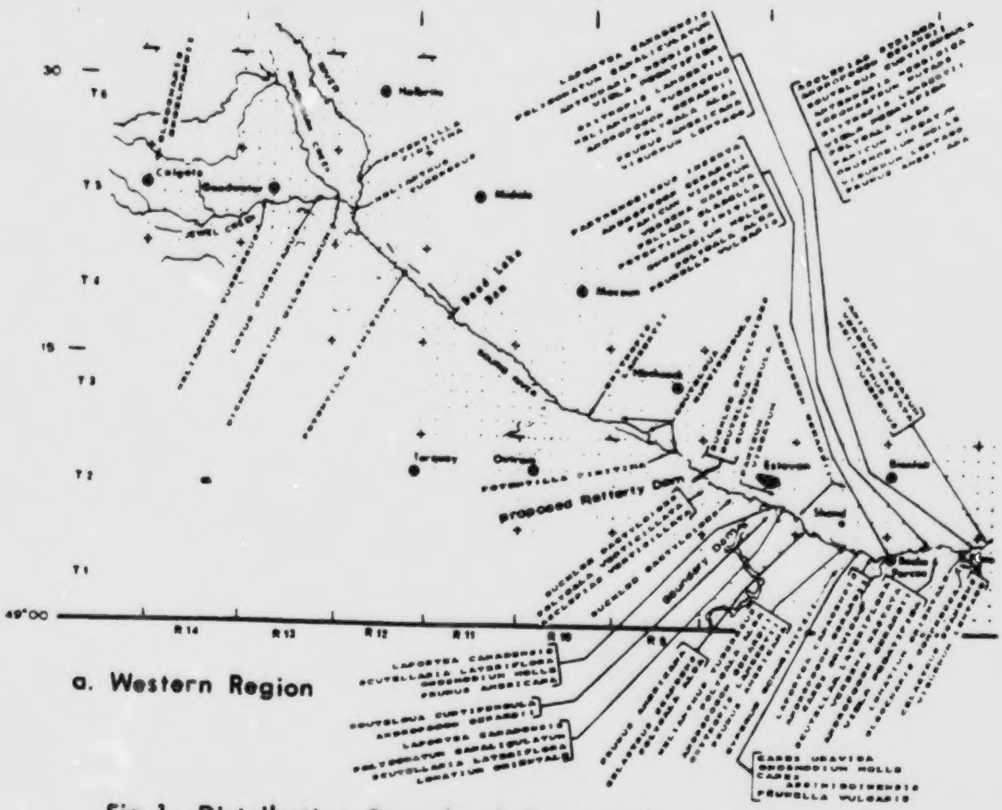
TABLE 1. THE PROVINCIALLY RARE PLANTS RECORDED FOR THE SOURIS RIVER AND LOWER MOOSE MOUNTAIN CREEK VALLEYS IN SOUTHEASTERN SASKATCHEWAN, CANADA.

	SCIENTIFIC NAMES	COMMON NAMES	PLANT FAMILIES	RARITY STATUS
1.	Andropogon gerardii	Big Bluestem	Poaceae	WS.FF.LN.NR
2.	Antennaria neodioica	Tomentose Pussytoes	Asteraceae	WS.INF!LS.ER!
3.	Asclepias syriaca	Silky Milkweed	Asclepiadaceae	RR!S!ER!E!
4.	Asclepias verticillata	Whorled Milkweed	Asclepiadaceae	RR!INF!LS.ER!E!C!
5.	Bouteloua curtipendula	Side-oats Grass	Poaceae	RR.FF.LN.C!
6.	Buchloe dactyloides	Buffalo Grass	Poaceae	RR!INF!LS.ER!E!C!
7.	Carex assiniboinensis	Assiniboia Sedge	Cyperaceae	WS.INF!LS.R-ER?C?
8.	Carex gravida	Heavy-fruited Sedge	Cyperaceae	RR.INF.LS.ER!E!C!
9.	Carex tetanica	Rigid Sedge	Cyperaceae	±RR.INF.LS.R-ER?C!
10.	Celastrus scandens	Creeping Bittersweet	Celastraceae	R̄R!INF!LS.ER!
11.	Cyperus schweinitzii	Schweinitz's Umbrellawort	Cyperaceae	WS.INF.LN.R?
12.	Dichanthelium wilcoxianum	Wilcox's Panic or Switch Grass	Poaceae	WS.INF!LS.ER!C!
13.	Eleocharis compressa	Flat-stemmed Spike-rush	Cyperaceae	WS.INF.LN
14.	Eleocharis engelmannii	Engelmann's Spike-rush	Cyperaceae	WS.INF!R-ER.C!
15.	Eragrostis hypnoides	Creeping Love Grass	Poaceae	RR!FF.LN.ER!E!
16.	Helianthus tuberosus var. subcanescens	Jerusalem Artichoke	Asteraceae	RR.FF.LN.R-ER!E!
17.	Laportea canadensis	Wood nettle	Urticaceae	RR!FF.ER!E!
18.	Lomatium orientale	White-flowered Parsley	Apiaceae	RR!INF!LS.ER!E!C!
19.	Lotus purshianus	Prairie Bird's-foot Trefoil	Fabaceae	±RR.INF!.LN.R-ER? C?
20.	Onosmodium molle var. occidentale	Western False Gromwell	Boraginaceae	RR.FF.LS.
21.	Oxytropis lambertii	Lambert's Purple Locoweed	Fabaceae	RR.FF.LN
22.	Panicum virgatum	Switch Grass	Poaceae	RR!FF
23.	Parthenocissus inserta	Thicket Creeper; Woodbine	Vitaceae	RR!INF!LS.ER!
24.	Pellaea glabella var. occidentalis	Smooth Cliffbrake	Polypodiaceae	WS.LS
25.	Polygala alba	White Milkwort	Polygalaceae	RR.FF.LN.C!
26.	Polygala verticillata	Whorled Milkwort	Polygalaceae	RR!INF!LS.ER!E!
27.	Polygonatum biflorum	Great Solomon's Seal	Liliaceae	RR!FF.LS.ER!E!
28.	Potentilla finitima	Prairie Cinquefoil	Rosaceae	WS.FF.R?C?
29.	Prunella vulgaris var. lanceolata	Lance-leaved Heal-all	Lamiaceae	RR!INF!LS.ER!E!
30.	Prunus americana	American Plum	Rosaceae	RR!FF.LN
31.	Scirpus pallidus	Pale-green Bulrush	Cyperaceae	RR.INF!LS.ER!
32.	Scutellaria lateriflora	Blue Skullcap	Lamiaceae	WS.FF.LN.NR
33.	Sorghastrum nutans	Indian Grass	Poaceae	RR!S!LS.ER!E!C?
34.	Verbena hastata	Blue Vervain	Verbenaceae	RR!INF!LN.ER!E!
35.	Viburnum lentago	Nanny-berry	Caprifoliaceae	±WS.INF!R-ER?
36.	Viola pedatifida	Crowfoot Violet	Violaceae	±WS.FF.LN.NR

(See over for legend of symbols used for rarity status categories)

SYMBOLS USED IN TABLE 1 FOR RARITY STATUS CATEGORIES:

C!	= rare in Canada.
C?	= "marginally" rare in Canada.
E!	= endangered in Saskatchewan
E?	= possibly endangered in Saskatchewan.
ER	= "especially rare" provincially.
FF	= fairly frequent localities within Saskatchewan range.
INF	= infrequent localities within Saskatchewan range.
INF!	= very infrequent localities within Saskatchewan range.
LN	= locally often numerous (i.e. local populations often large).
LS	= locally sparse (i.e. local populations small, with few individuals).
NR	= no longer considered provincially rare.
R?	= borderline to removal from provincially rare status.
RR	= regionally restricted (i.e. a limited range) in Saskatchewan.
RR!	= regionally very restricted (i.e. a highly limited range) in Saskatchewan.
±RR	= more-or-less regionally restricted in province.
R̄-ER?	= borderline rare to "especially rare" in province.
S!	= a single known local site in Saskatchewan.
WS	= widespread range in province (includ. localities widely spaced).
±WS	= more or less widespread range in province.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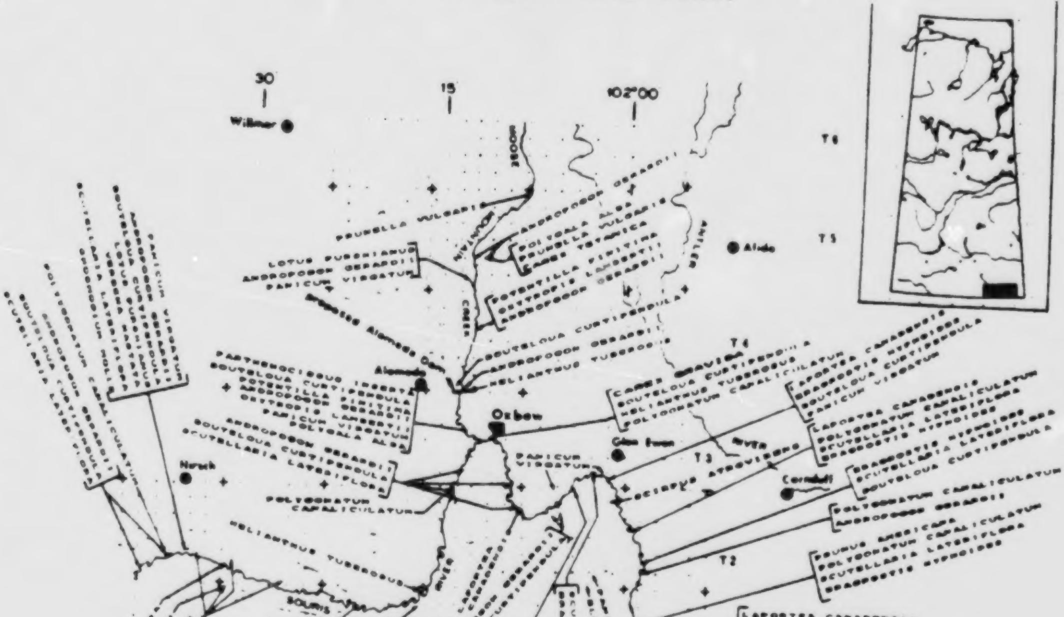
49°00
R 14
R 13
R 12
R 11
R 10
R 9
Estevan
Proposed Rafferty Dam
Boundary Dam
Torquay
Outram
Midale
Macoun
PRUNELLA VULGARIS
SCUTELLARIA LATERIFLORA
LAPORTEA CANADENSIS

a. Western Region

Fig. 1. Distribution Records of Provincially Rare Native Plants in the Souris River Valley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15
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Willmar
Alida
Alameda
Oxbow
Glen Ewen
Carnduff
T 6
T 5
T 4
T 3
T 2
T 1
R 5
R 3
R 2
R 1
R 34
R 33
PRUNELLA VULGARIS
LOTUS PURSHIANUS
ANDROPOGON GERARDII
PANICUM VIRGATUM
BOUTELOUA CURTIPENDULA
HELIANTHUS TUBEROSUS
CAREX GRAVIDA
POLYGONATUM CANALICULATUM
LAPORTEA CANADENSIS
SCIRPUS ATROVIRENS
ERAGROSTIS HYPNOIDES
SCUTELLARIA LATERIFLORA

Fig. 1b. Eastern Region

BOARD OF ENQUIRY SOURIS BASIN STUDY.

I am against the Shand, Rafferty Alameda project because it appears to be a most wasteful system of water conservation.

Natural evaporation at Rafferty will exceed precipitation (Page 4 - 1 & page 5 - 10 of Draft I.E.S.) Add to this the forced evaporation at Shand 6300 dam3 (Page 4 -5) and the loss to the aquifer of 530 dam3 (Page 5 - 14) water loss becomes almost five times the highest annual Estevan consumption.

With the creation of such a large body of shallow water, eutrophication and the concentration of natural pollutants will be rapid and 'inevitable' (Page 6 - 69) Boron, a soil sterilant, free ammonia, mercury & salinity appear to be the main concerns.

American Army Corps of Engineers study recognises this, so they have demanded, and been given, without public consultation or approval, the right to water released only from the top of both reservoirs.

As these pollutants will lie in the reservoir, they will be forced into the aquifer to foul the downstream groundwater.

Water retained for an extended period will become unusable for recreation, the maintenance of aquatic life, and even general irrigation use. Page 6 - 62.

Here we have the ridiculous situation where a second dam at Alameda is required in an attempt to compensate for water losses.

1980

We are told (Page 6 - 30) that all water will be retained at Rafferty for all time. None will go to the U.S. as their share. No water will be released even for irrigation during the filling period. The filling period has been estimated by S.B.D.A. at from 7 - 43 yrs. By others at from 50 yrs. to never. Presumably, all water is to go to the City of Estevan and to cool at Shand.

Apparently, all apportionment water is to come from Moose Creek. This means that no water can be kept in Alameda reservoir for any length of time. No study has been done on the effect of repeated and brief floodings of the Moose Creek land, which is saline; or on the quality of water stored briefly and released.

To me, this would mean the possible destruction of up to 1240 ha of presently productive land on Moose Creek. The estimate of 1600 ha of upland irrigation (on land recognised as saline, Prof D.W. Anderson, Fed-Prov Survey of 1970 - 78) and the creation of a water recreational facility at Oxbow, seems, under these circumstances, more than just a little optimistic.

Once these dams are built, the temptation to import northern water to utilise them, and justify the cost, may become irresistible.

This is a matter of grave concern to many people outside the immediate area. Everyone affected, in any way, should be consulted and considered, before things go too far to be reversed.

If simple local water conservation and flood protection are all that is required, it seems to many of us, that smaller dams with excavated reservoir areas to keep evaporation to a minimum, would be more sensible. -- The soil removed could be made suitable for irrigation.

The cost of excavation should be more than saved by the decrease in land acquisition, oil-well mitigation ($21,000,000) road construction and mitigation, ($3,800,000 on one C.P.R. crossing alone.)

This would allow suitable sites for flooding to be chosen, rather than flooding indiscriminately on land suitable or not.

Resistance by land-owners and taxpayers, will-life and environmental people, would, in all likelihood, be eliminated.

Drag-lines capable of such excavation are already close to the site of Rafferty. Stripping of 80' overburden is an every day routine.

To save even more water, an estimated 6,300 dam3 annually, the Shand generators could be air-cooled, as has been suggested by several engineers. — After all, it is obvious that without water importation, any subsequent additions of generating capacity will have to be air-cooled.

Surely it makes sense to keep land destruction and water-loss to a minimum, not to mention cost.

Thank you,

J.P. Harvey,
Box [illegible], Alameda, S0C 0A0

c/c

Environment Canada

My purpose in writing is to bring forward some of the work which the Souris Basin Development Authority has done on behalf of research in southeastern Saskatchewan. Before Rafferty Alameda was initiated, there were virtually no funds available for archaeological or heritage resource identification. Similarly, certain species specific research in wildlife had never been undertaken.

As a result of Rafferty Alameda, millions of dollars have been directed toward both. People, who have these interests, will now have access to far more data than ever existed.

I believe that one can seek balance in development. Opportunities for research have been accelerated by Rafferty Alameda and it is regrettable that the authority has not recieved credit for the innovation and commitment applied to developing the Rafferty Alameda project.

Project development has led to a long range strategy corresponding fiscal commitment on behalf of species and habitat, that will be of interest to many naturalists and other researchers.

I urge Environment Canada to recognize the value of this type of support and allow Rafferty Alameda to proceed.

Phil Holzer
405 Brooks Road
Estevan Sask
634 9575

JUL 1989
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CANADA

RAFFERTY-ALAMEDA DAM PROJECT

A brief submitted by
R.H. Hume
Carlyle, Saskatchewan

RAFFERTY ALAMEDA DAM PROJECT

As a resident mixed farmer who has farmed in the Moose Mountain Creek area for over fifty years, I believe I am qualified to present a brief regarding the Rafferty Alameda Dam Project. After careful study of the environmental impact upon agricultural production and wildlife habitat, I am definitely opposed to the proposed project.

The loss of productive agricultural land for all future time should be seriously considered. This loss includes community pasture land in the Rafferty area and a large area of privately owned grazing land in the Alameda area. No data on the economic loss to patrons and owners is available, viable farm units will be destroyed or rendered unprofitable to continue. Many of the larger cattle herds in South East Saskatchewan depend on grazing land in the Alameda and Rafferty project area. The carrying capacity of pastures in the Moose Mountain Creek area would average about six acres per animal unit. In the Rafferty area twelve acres per animal which is much better than the short grass area of South Western Saskatchewan which requires fifty to sixty acres per animal unit. The loss of pasture land in the Alameda, Rafferty area presents a threat to the livelihood of the mixed farmer. The mixed farmer or family farm should be given, at least, the same consideration as the endangered species of animals and plants in the area!

On a yearly basis the Alameda Auction Market receives upwards of two thousand head of cattle from the area. If the dam projects proceed it would mean the possible closing of the Auction Market as well as a great economic loss.

The reservoirs in the proposed project would depend entirely on runoff from agricultural land. The quantity and quality of water received in the reservoirs can not be determined by preliminary estimates. The quality of water according to studies will vary greatly depending on time of year and quantity of water entering the reservoir. Pollution will be a problem. In both areas high concentrations of soluble salts exist at different levels in the soil. Agricultural herbicides and pesticides will accumulate as time goes on in the reservoirs. Increased evaporation as surface area in the reservoirs increase will result in more salt residue remaining in the water. In the Moose Mountain Creek area three high pressure oil pipe lines cross under the creek bed. Any rupture of the lines would be disastrous in polluting the reservoir. Normally there is a flushing out of the river and creek during the spring runoff. When the flow is impeded by the dams the quality of water will deteriorate.

Since the Souris River flows through two provinces and the State of North Dakota, the quantity and quality of water passing over the boundaries may well become a very contentious issue. To proceed with the project without further study and definite guide lines would result in international disputes and problems difficult to solve. It is inevitable that the flow of water downstream in the Souris will be reduced by holding back water to fill the dams.

Irrigation Development

The high cost of irrigation equipment and the fact that much of the land adjoining the proposed dams is unsuitable for irrigation would not encourage development on a large scale. Water quality and the saline condition of subsoil strata would further discourage development. In dry cycles when irrigation might be desired water levels in the dams would be too low to accommodate irrigation.

Considering the negative implications of the project, the unreliable source of water of poor quality, the loss of land to agricultural production, I do not believe the benefits would justify the expenditure of hugh sums of taxpayer's money to proceed with the project.

WEYBURN COMMUNITY DEVELOPMENT COMMITTEE

Brief to Environment Canada

Ladies and Gentlemen:

My name is Alderman Frank Jennings and I am Chairman of the Community Development Committee for the City of Weyburn. Our twelve member volunteer committee represents a cross section of the business and industrial community.

As a committee of City Council we strongly support the presentation of Mayor Ron Barber and we would like to expand on his presentation.

Historically, Weyburn's economic base has relied primarily on being a service centre to agriculture, oil and the health care sectors. Needless to say, we have experienced dramatic peaks and valleys particularly in the agriculture and oil industries and to this end we must recognize the need to diversify our economy to add stability and ensure the viability of the community. We feel that Rafferty Alameda Dam project will assist in fulfilling this requirement.

Over the years our City has not had the economic base to sustain employment for our young people and as a result our young people have been forced to leave, and thus have left us with an aging population. The project before this Board can address both these sectors; by creating and sustaining employment in the varied areas of construction, recreation, tourism and manufacturing or industry resulting from the project and, by providing a lake with accompanying facilities for our aging population. At present such facilities are not available to the average person without travelling a considerable distance.

There are the obvious recreational benefits to our community, but naturally we are anticipating the industrial and manufacturing potential emanating from the project. It is a proven fact that economic activity stimulates economic activity, or more bluntly, business attracts business.

We, the Committee, must also address the agriculture base in our community. There is little doubt that diversification is required, therefore we see the project as a response to this requirement by providing much needed irrigation. With the irrigation providing diversification we look forward to increased employment in the production and processing of speciality crops.

During the past few years we have experienced a shortage of water in the rural area. City Council approved twenty-eight applications for farmers to remove water from the City reservoir to fill their dugouts. We estimate that 22 million gallons were removed, plus the rural residents draw about 15 million gallons per year for domestic and livestock consumption. The City also supplied 0.2 million gallons to the Village of McTaggart and 10 million gallons to the Weyburn Golf Club.

The City will not be able to continue the supply of water to the rural residents and jeopardize the taxpayers of Weyburn. The City also supply seven farms and the Trucker's Inn directly from our system. Others in the rural area are asking to be connected to the City system.

The completion of Rafferty Dam would be a real option for an alternate water supply for the City. At the present time we do not have viable alternatives. The City of Weyburn, like any other community, depends on water supply for survival.

We are also concerned about industrial growth for the City. To encourage industry to locate in Weyburn, we must have a guaranteed water supply. When the distillery re-opens the water supply is in question to meet their maximum production. It could be as simple as no water, no industry, no development, no business, no community.

Our friends in the oil industry also have requested the City to assist with supplying water. Unfortunately we were forced to turn them down for obvious reasons. They were so desperate they used sewage effluent.

One more dry year with little or no runoff will place us in a frightening situation. It appears to us that it is poor planning to allow spring flood waters to escape and not be saved for future use. The City were criticized for building the Albert Douglas Dam in the early part of this decade. We are still able to supply our taxpayers and rural neighbours with water today because of this dam. Without water we cannot exist - with water we can flourish.

We will go on record to support the continuation of the Rafferty-Alameda project.

Alderman Frank Jennings,
Chairman,
Weyburn Community Development Committee.

A brief to the Federal hearing on the environmental impact of the Rafferty Alameda project.

This brief is written on behalf of the South East Watershed Advisory Board of the Saskatchewan Water Corporation.

The South East Watershed Advisory Board is made up of six members scattered throughout the South East Region. We have remained intact since our inception. Since the Rafferty Alameda Project is in our region, we have had direct and constant association with the project during all the planning stages and the initial construction stage.

South East Saskatchewan is a semi arid area and most years we have less water for a great variety of users. But periodically we get a great abundance of water flowing down the Souris River and Moose Mountain Creek due to spring run off or a large rainfall in the watershed area. Then if the dams are in place we can save our water and use it.

Water flow records show that the amount of water that results from these two watersheds is adequate and sometimes of flood proportions to make Rafferty Alameda useful and workable reservoirs.

The dams would guarantee flood protection for down stream residents that have historically suffered from the periodic floods. The end result would be the storage and wise use of a precious resource. At the present time there is no water management on these two water courses.

We believe that these projects have been carefully and thoroughly studied as to their environmental impact on everything concerned and that adequate mitigation and compensation has been provided.

The sooner construction resumes the better off all concerned will be. Do not deny us the wise use of our water to satisfy the demands of a few negative oriented preservationists.

I am also the Past President of the Saskatchewan Wildlife Federation. An organization of some 34,000 sportsmen and conservationists. The vast majority of our membership supports this project.

Respectfully Submitted
Ed Bennett
(Chairman South East Watershed Advisory Board)

Environment Canada
Inland Water Directorate
1901 Victoria Ave
Regina, Saskatchewan
S4P 3R4

As a supporter of the Rafferty-Alameda Project my intent in addressing this hearing is to urge you to allow the project to proceed.

I have lived in the area most of my life and am an enthusiastic hunter. A large number of members of the wildlife support organizations are hunters. We recognize that to ensure good sport, we need to make an investment in wildlife protection and preservation. Sometimes, however, the objectives become blurred. Personally and I put this bluntly, I protect ducks in the spring because I intend to hunt ducks later, in the fall. We don't protect deer because they are cute, we protect them because we plan to hunt them when they are sufficiently mature.

Strategic maintenance of wildlife populations is required. There is currently no strategy underlying what is happening in southeastern Saskatchewan. I've lived here long enough to see that nature itself creates great hardship for indigent animal life.

The fact that we have broken as much land as we have has distorted the natural pattern and there has been no mitigation. Roads, highways , rail lines, mines and indeed towns and cities have also had impact. I doubt very much if the existing pattern could be described "natural".

In my view, the wild life mitigation approach taken for Rafferty-Alameda is strategic. It gives us an opportunity to establish optimum targets and to set standards for achieving those targets. Further, there is a built in flexibility that I find reassuring.

This project can provide solid water resource management that will benefit wildlife and may serve to stabilze healthy populations of animals. I encourage Environment Canada to assess the project's ability to address some of the environmental damage that has already occurred, and to provide protection from the devastation of flood and drought that frequently occur within a harsh, demanding natural framework.

George Kingdon
Box 171
Bienfait, Saskatchewan
S4A 1K2

George Kingdon

Alameda, Saskatchewan
S0C 0A0
July 8, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

My support for the Rafferty-Alameda project goes back many years. I agreed with PFRA when they first suggested it and I was pleased when the Garrison Dam project in the U.S. was defeated. That decision strengthened the case for Rafferty-Alameda and gave Saskatchewan greater scope in planning for our water resource management.

I fear that your department, coming rather late to the scene, may not be fully aware of what will happen to us, if Rafferty-Alameda does not proceed.

You have, no doubt, heard about our need for flood protection. I think some of us wish this spring had been a flood year, just so your people would know first hand what the Souris in flood is really like. Certainly, no one would have dared to revoke the license, if the water had been roaring through, as it has done in the past. The current tragedy is that had the license not been revoked, the reservoir would have been holding water by next spring. Because of what's being allowed to happend here, we have lost yet another year of protection. Even if allowed to start up tomorrow, too much time has been lost from this construction season for us to have the protection we otherwise would have had next year.

Similarly, we have been denied, yet again, the drought relief that we need. By September, 1988, the Saskatchewan Water Corporation had received 8,000 inquires regarding drought. Twenty-three towns in southeast Saskatchewan were out of water. Three million dollars in drought relief had been paid out by the Saskatchewan government. You must be aware that drought here is not over. This spring only look wet. Water tables in the area are still low for reliability and drought conditions are definitely still with us. We know, that as a result of the disaster caused by revoking the license, the reservoir will not be in place this year, or next, but we need it nonetheless.

Had the dams been built in 1920, there would be two Shand stations, flood protection and water for recreation as well as for irrigation of 12,000 acres. The reservoirs would be 89% full even after the recent dry years.

Had the dams been built in 1959, even though 1960 was a dry year, the first Shand station could have been built in 1961 and the second in 1967. The reservoir would have 200,000 acre feet of water and could survive several more years of drought without water shortages.

But here we are - we almost built the dams - we almost had the water - and now we are in limbo.

This project has to be reactivated now for all the reasons we have given for all the years we've been giving them - we cannot afford to go on waiting. It just costs too much. It's costing us in flood damage - millions of dollars here and in Manitoba, it's costing millions in drought relief and it is costing $2m/month for every additional month's delay.

The license has to be reissued and we have to build these dams. Every year we wait, it will cost us more. These costs involve the federal government, as well as the provincial. It is in everyone's best interest to use Rafferty-Alameda to promote development of effective water management in southeastern Saskatchewan.

Yours sincerely

Cecil Krieger

Telephone: 489-2103

Alameda, Sask.,
July 6, 1989.

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir:

Environment Canada seems to be losing sight of the real purpose of the Rafferty-Alameda. We worked for that project - it would not be exaggerating to say that we have suffered, for the project for many years. Year after year, we have lost property to floods while droughts have sapped the strength of our communities. Rafferty-Alameda is an opportunity to improve the economy as well as a way to regulate the water on the Souris. It has to be recognized as a huge opportunity for us.

I respect the need to care for our environment. In my view, everyone of us who lives here knows more about the land and what lives on it than any of the specialists you could bring in. We know what will grow and thrive and we know that water is essential for life. So is food. We are food producers in this part of the world and we could expand that ability if you let us have the water we need.

There have to be some trade offs. What we can offer the world is important - I read almost daily about food shortages, famine and drought in other parts of the world. We are in a special position here - we know that with Rafferty - Alameda, we could manage drought years and increase our productivity. I like the idea of producing food for those countries that can't. Rafferty-Alameda has to be seen as a water storage project that has more potential for net gain than cost. It is not an irresponsible project - years and years of public involvement have gone into its development. In

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Environment Canada,
Page 2...

asking for it to proceed, we know what we are doing. We are protecting our land, increasing our ability to be productive and maybe in a small way, making a contribution to ensuring more food for more people.

We have fought for this project chiefly for protection of our homes, property and livelihood. Certainly, however, some thought should be given to the contribution that our livelihood makes. It seems to me that at this time, food producers should be recognized for the contribution they can make, and that Rafferty-Alameda should be recognized as an important element in helping us do the best we can.

So very much has gone into this project - we support it with all our hearts. Please allow Rafferty-Alameda to proceed.

Yours sincerely,

Ronald Krieger

Ron Krieger
Telephone # 489 4613

[illegible]
Carlyle, Sask.
[illegible]

JUL 1989
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ENVIRONMENT
CANADA

July 7, 1989

I am writing my brief on the Rafferty Alameda dam project to let you know what I think about it. The IEE put out by Environment Canada stated a number of areas of concern. The areas of concern include water quality, water quantity, rare and endangered species, fish, migratory birds, pasture lands, and navigable waters.

Although the IEE was a result of a court case, I cannot help but feel that it has been a complete waste of money and time, considering over 20 years of preparing the project. It should be going ahead and it should be built. The IEE mentions adverse impacts on areas of its responsibilities due to the project. What it does not mention, however, is the mitigation already in place and the commitments already made and their impacts on those respective areas. It would have been more responsible of Environment Canada to take all information available into account when it documented the IEE.

More time and money has been wasted on these studies than is necessary. Hundreds of thousands, if not millions, of dollars has gone into these studies. It is the tax payers who are paying the cost of this again and again. Where does it all stop? It seems to me that more trees probably would have died in making the paper for this study that would have been flooded as a result of the construction of these dams.

The best study that can be done is the survey of the people who live in the area who know what the dam project is all about and how it will affect them. These people live beside the project. As you know, it has met with their support and satisfaction. Let us build the dams together. Let us build the dams now.

Joyce [illegible]

University of Regina
Department of Biology
Regina Saskatchewan
Canada S4S 0A2
(306) 585-4145

July 5, 1989

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CANADA

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

To Whom It May Concern:

RE: THE RAFFERTY - ALAMEDA PROJECT

I want to express my opposition to the Rafferty-Alameda Project. Having experienced the droughts of the 1930s and 1980s I know that water is a precious resource in southern Saskatchewan. It would be good to be able to retain our allotted share of the Souris. However, the 1987 study was neither complete nor environmentally sound. The stoppage was sad but the time provided allows us to look at the future and consider how we can make wiser use of our resources and live more sustainably.

I grew up on a farm west of Moose Jaw and finished High School in 1929. I could not stay on the farm so I taught school and worked my way through University, helping with seeding and harvesting when possible. Eventually I came to Regina as a biologist, geneticist and botanist. In my spare time I supported natural history societies in their efforts to develop better public and government understanding of nature. Since my retirement, June 1978, I have been Curator of the Regina University Herbarium collecting and studying native plants of southern Saskatchewan.

I have no special training in ecology but I would like to comment briefly on the Rafferty-Alameda Project. My three main concerns have to do with water, land and native plants.

WATER. A couple of field trips along the Souris between Weyburn and Estevan in 1988 convinced me of the dryness of the area. Without doubt some of that dryness is due to the activities of man. When land is cultivated water penetrates it less easily and there is more water erosion over the surface. Similarly when pastures are overgrazed there is little vegetation to absorb water and the soil is compacted and little water penetrates the soil. The draft IEE report recognizes this when it comments that even though the 1980s were extremely dry years - "from 1959 - 1988 Saskatchewan has delivered 101% of the natural flow to North Dakota". If water is a scarce and precious resource then it must be used wisely.

Since the purpose of the Project is to retain all uncommitted Souris natural flow why does the proponent make no suggestion of better watershed protection? There should be a proposal to improve vegetation cover on at least parts of the watershed. Possibly some submarginal lands should be taken out of cultivation and returned to native vegetation. Perhaps Saskatchewan should purchase the two PFRA pastures, significant amounts of which will soon be flooded.

The following are a few other questions and concerns about water quantity and quality that bother me. How long will it take to fill the reservoirs? Since the 1988 flow only provided about 1/10 the amount required to cool Shand, why do we no longer hear that Shand will be air cooled? When the reservoirs are full how much water will be lost to evaporation? What happens if this evaporation total exceeds Saskatchewan's share of the natural flow? What damage to downstream banks and vegetation will occur because of the surges of water released from the dams at unusual times of the year?

LAND. Several hundred square miles of land will be flooded by the Rafferty-Alameda Project, or will be destroyed by dam building, borrowpits, pipe-laying, channelization or by irrigation. Land is precious and the most detrimental impact of the Project is loss of land. Proponents do not seem to understand this problem and when there is a complaint that farm land, wildlife land or PFRA pasture land will be lost because of the Project the proponent simply states that lands are being assembled to replace any land lost because of the Project.

Until the proponent understands that uncultivated land is precious, environmentalists must do everything they can to block the Project. We are not living in 1890. It is now nearly 1990 and far too much native prairie land has been used and abused by man. Canada and the provinces have expressed support of sustainability but this Project proves that Saskatchewan does not. To live sustainably at least 12% of the land must be left to nature. There is little uncultivated land in southern Saskatchewan and most of that belongs to the Crown. The proponents of the Project seem willing to flood it, trade it off, destroy it or irrigate it. Native land in southern Saskatchewan is far too precious to be so freely disposed of as suggested by this Project.

PLANTS. Finally, as a botanist, my main concerns re the Project are for our native plants. Plants form the base of the food chain. The green plants convert the sun's energy into chemical energy and all forms of life, including man, are completely dependent on the green plants for food.

One of the detrimental effects of the Project will be the constant production of CO_2 and other gases from the burning of fossil fuels by the Shand power plant. Since we are already suffering Greenhouse effects this impact is especially serious. Our climate is hot and dry during the growing season and this will be worsened by the Project. Efforts should be taken to counter the impact. Total mitigation will be impossible but at least the proponent should undertake revegetation of the watershed. The planting of trees anywhere in the Souris area would help a little. In addition the Government after setting the example could urge others to help in a revegetation of the area.

Dr. V.L. Harms lists 39 native species in his detailed work (April 1989) "Distribution and Status of Provincially Rare Plants in the Souris River Valley, southeast Saskatchewan". No person had previously taken the time and effort to make this information available. To date the government has taken the attitude that nothing in the area needs protection. Now we know that there are many rare species in the area and they must not be extirpated. These species are mostly at the northern limit of their range so they are especially important for in this time of changing climates they may be our plants of the future.

I have not made any special plea for the rare plant species which may be extirpated by the Project. There is no law in Canada nor in Saskatchewan which gives protection to rare plants therefore no mitigation is possible and the Project cannot be stopped just to save rare plants. My plea is for all native plant species. The Project proponents show total disregard for native plants and animals and also for unspoiled land therefore the Project must be stopped until adequate measures are promised.

MITIGATION. Adequate mitigation measures are so far-reaching and obtaining more water for the area is so important that I think certain parts of the Project might be allowed to proceed before all needed mitigation takes place.

I am not prepared to dictate the terms of mitigation. These include changes in government attitude. It includes major changes in the Department of Environment and the hiring of qualified botanists not just to monitor native plants which may be affected by the Project, but to evaluate all native Crown lands, to plan for maybe a hundred ecological reserves, to study provincial parks and to plan the restoration of those areas, etc.

My comments are not meant to be political. I have lobbied for nature with all three Saskatchewan parties. Not one of them is sufficiently environmental to proceed unchanged into the Twenty-first Century.

George F Ledingham

G.F. Ledingham, Curator
Herbarium
University of Regina

GFL:ac

Roger Lowden,
Oxbow, Sask.
July 6, 1989.

Environment Canada
1901 Victoria Avenue
Regina, Sask.

For years now I have been an enthusiastic supporter of Rafferty Alameda for what I know it will do for this area. I applaud our provincial government and the state of North Dakota in recognizing our right to flood protection and for undertaking a water resource conservation project from which we will all benefit.

In addition to writing to show my support of Rafferty Alameda, I also have a question for your department. In reading the Draft Summary of your Initial Environmental Evaluation, I noticed that your officials go on at some length about your department's responsibility for water quality and water quantity. I am pleased to hear that you have this responsibility but at the same time, I wonder why you've done nothing so far except jeopardizing the future of the one project here that was going to improve both. Are you aware that your department has never, ever, done anything to clean up the Souris? Are you aware that Environment Canada does not have any plans to do so in the future? Restoration of the Souris does not appear in any published Environment Canada proposals for future initiatives.

In the absence of Rafferty-Alameda then, it appears that your department has been, and will continue to be both deficient and engligent in fulfilling your federal responsibility for water in the Souris. It has been and will continue to be a dismal, filthy sludge on the Saskatchewan side and a sewer on the Manitoba side. I cannot but wonder, if Environment Canada takes its responsibilities so seriously, why you continue to allow four Manitoba communities to empty essentially untreated sewage from their lagoons, into the Souris.

While it is generally agreed that there are no absolute predictions about the degree of probable water quality improvement resulting from Rafferty-Alameda, there will be improvement - especially in odor and appearance. I can assure you, that this represents a change for the better.

Furtner, public hearings in our area have made it clear that water quality will be monitored. That's sufficient reassurance for me and for my neighbours. We have learned a great deal about reservoirs and how to ensure good management. I believe that the technology is available and that we can be sure that the reservoirs will be used to our advantage.

I encourage you to facilitate the construction of the Rafferty Alameda Project with a recommendation in its favour. The reliable availability of good water in our area is critical and this project is the means of providing us with the assurance we need. In the event that you continue to obstruct the project, I look forward to hearing your proposals to serve our needs as you satisfy your responsibilities to us.

Yours truly,

"Roger Lowden"
Roger Lowden.
Tel: 483 2676

BIENFAIT LOCAL UNION No. 7606

District 18, United Mine Workers of America

Address all communications to the secretary treasurer

Estevan, Sask

June 23, 1989

Mr. Roy Ludwig
President, U.M.W.A.
Local 7606 - District 18
P.O. Box 430
Bienfait, Saskatchewan
S0C 0M0

On behalf of the local members of the United Mine Workers of America, Local 7606, we hereby submit the following:

In total, at present, we have approximately (150) one hundred and fifty members working at Estevan Coal Corporation between the Bienfait and Boundary Mining Divisions. The United Mine Workers have been in this area representing workers for these two (2) Mining Operations since the early 1930's.

The main and foremost benefit we see in this project is how it would assist in creating long term job security for our present members. Secondly, it could mean the creation of 30 to 35 additional jobs in the mining industry. The economic spin-off from these jobs would also be significant.

As taxpayers and citizens of the region, we can see definite growth for the economy of the community and for the surrounding areas. Also, we believe the Rafferty Dam would create a more efficient method of cooling than building an air-cooled plant at Shand.

As the Rafferty Project is developed, the water based recreational facilities will benefit our members, as well as other people in the local area, and indeed the entire province.

In the past, we have been threatened with reductions to the Boundary Dam Generation Station capacity as the result of low water levels in the Boundary Lake. The Rafferty Dam would create a constant supply of water for the station, thus ensuring enough water for the cooling systems to be operated at their design capacity.

Therefore, on behalf of the membership of Local 7606, we recommend that the project proceed as quickly as possible for the benefit of our membership and the people of Saskatchewan.

Roy Ludwig
President

Ken Bonokoski
Secretary-Treasurer

Gary Anton
Vice-President

Terry Smyth
Recording Secretary

Don Smart
Co-Chairman,
Occupational Health and Safety Committee

Terry Rohatyn
Sub-District Board Member

Rural Municipality of Estevan No. 5

OFFICE OF THE ADMINISTRATOR

1329 4th STREET

ESTEVAN, SASK

S4A 0X1

July 7, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Sask.
S4P 3R4

Dear Sirs:

Re: Rafferty Dam

I am enclosing for your review and consideration a brief in favor of the Rafferty Dam project.

Yours truly,

Dale Malmgren
Administrator

DM/lh

enc.

JULY 7th 1989

WRITTEN BRIEF

RAFFERTY DAM PROJECT

R. M. OF ESTEVAN NO. 5
1329 - 4TH STREET
ESTEVAN, SASKATCHEWAN
S4A 0X1

Identification:

Dale Malmgren, Administrator
R.M. of Estevan No. 5
1329 4th Street
Estevan, Saskatchewan

Representation:

This brief is being submitted on behalf of the council of the Rural Municipality of Estevan No. 5.

Purpose:

To express our support for the Rafferty Dam concept and to address the concerns of flood control, water conservation and wildlife.

Background:

Information gathered in the preparation of the segment of this submission on flood control is a result of searching through old files and examining ledgers, financial statements and minutes of council meetings.

Flood Control:

The records indicate that residents of the municipality residing along the Souris River Basin have been plagued by flooding for many years resulting in the loss of a substantial amount of property and the expending of thousands of dollars by municipal, provincial and federal governments. The following are some noteworthy facts that remain on record in the office of the R.M. of Estevan No. 5:

- In the minutes of July 5, 1948, various items of flood damage costs are listed including $750.00 to residents of Woodlawn Park in Sections 10 and 14 2 8 2.

In 1969 flood assistance was paid to various individuals and businesses in the amount of $20,410.00.

In 1974 an application was made by the municipality to the provincial government for reimbursement of flood dislocation payments in the amount of $7,665.00.

. . . . . Continued

At a meeting of council on May 6, 1975, a resolution was passed "that we make application to the Dept. of Municipal Affairs for financial assistance to victims of 1975 flooding with regard to real and personal property where such damage has occurred any place in the R.M. of Estevan No. 5."

In 1975, the Estevan Woodlawn Golf Club appealed for flood assistance in a letter citing actual and projected expenses in the range of $12,450.00 to $15,450.00.

In 1976, a flood victim dislocation grant was received in the amount of $8,550.00. This amount was $3,177.00 less than the actual amount paid out by the municipality.

At a meeting of council on April 6, 1976, a resolution was passed "that we continue to press our views and those of Souris River Flood Prevention Citizens' Committee to both Senior and Provincial Governments with regard to flood control."

- On May 9, 1977, a letter was sent to the Souris River Basin Study Board recommending and approving the construction of Rafferty Dam.
- In 1977, the R.M. of Estevan spent $66,650.00 repairing roadways damaged by flooding. Government grants were received in the amount of $55,735.00 leaving a net expenditure to the municipality of $10,915.00.
- At the annual convention of the South Eastern Sask. Rural Municipal Association on November 17, 1977, a resolution was passed: "Whereas we have not an ample water supply to cities, towns and villages along the Souris River and to support the agriculture enterprises during dry years, and whereas agriculture enterprises along with cities, towns and villages depend on electrical power, and whereas S.P.C. has not a supply of water as a reserve, and whereas flooding of the Souris River is beyond control because of surface drainage and land reclamation in Yellow Grass and Tatagua Marsh, and whereas flooding of the Souris River Valley causes anxiety and hardship to several R.M.s by direct damage to roads and bridges, and recent grants from flood damage, therefore be it resolved that this meeting endorse Rafferty Dam in principle."

The council of this municipality are of the opinion that the construction of the Rafferty Dam will effectively control flooding and for that reason urge the completion of the project.

. . . . . Continued

Water Conservation:

The history of the Souris Basin area indicates extremes in water quantities too much water some years and far too little in others. In years of drought cities, towns and villages along the Souris River are compelled to restrict water usage. The Hamlet of Hitchcock obtain their water requirements from a well located some 5 miles from the hamlet. In times of low rainfall the water source is unable to supply the demands of the hamlet residents. A recurring problem of the City of Estevan appears to be the supply of adequate and quality water for their residents. The completion of Rafferty Dam cannot ensure an everlasting excellent quality of water but the Dam would effect proper water management and conservation and result in a more uniform quantity of water supply for communities along the Souris Basin.

Wildlife and Plant Life:

There have been comments that the construction of Rafferty Dam will create adverse effects on wildlife and result in the destruction of rare plant life in the Souris Valley. We do not profess to be experts in either of these areas, but we sincerely doubt that the so-called endangered plant species, some of them probably weeds, are native only to that area of the Souris River Valley, west of the proposed spillway, that will be flooded by Rafferty Reservoir. The harmful effect on wildlife is also very questionable. Wildlife, like all other living beings, require water to survive. The storage and availability of water cannot be detriment to any of the wildlife species that inhabit the Souris River Valley, but rather should be looked upon as necessary to their survival. We also feel that if there was cause for concern, the Estevan Wildlife Federation would not be in support of the Rafferty Dam project. It should also be mentioned that it would appear that the Souris Basin Development Authority is committed to preservation and enhancement of existing wildlife, by their proposed acquisition and conversion of 5,000 acres of cultivated land to grassland, adjacent to the Souris River Valley.

Closing:

The benefits which the Rafferty Dam project will provide for the Estevan area in terms of employment, recreation and economic growth are undoubtedly of great importance. Contractors and businesses have made investments on the basis of a completed project. The suspension of the project has already created hardships for those businesses, and it has also resulted in unemployment for many individuals. The anticipated water based

. . . . . Continued

recreation and cottage development, that would result from a completed Rafferty Dam, are much needed facilities in this area of the province. The flood protection the Dam will provide is long overdue. Dozens of studies have been conducted and millions of dollars have already been spent. There is no doubt in our minds that Rafferty Dam is necessary and that delaying its construction is a backward step. In closing, we repeat that we support and fully endorse the Rafferty Dam project, and urge and encourage its completion.

RESPECTFULLY SUBMITTED THIS 7TH DAY OF JULY, 1989

Administrator

P. O. Box 67
Torquay, Saskatchewan
S0C 2L0

June 23, 1989

Environment Canada
Inland Water Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R6

Dear Sirs:

RE: Rafferty-Alameda Project

Attached is a brief that I wish to submit with respect to the Rafferty-Alameda Project, but which I am unable to present at the Estevan Hearing.

I hope you will give the enclosure your consideration.

Yours truly,

Brian Marcotte

Brian Marcotte

enclosure

BRIEF - RAFFERTY ALAMEDA PROJECT

RECREATION

My purpose in submitting a brief is to highlight those elements of the Rafferty-Alameda Project which hold potential for recreation and tourism in the area. For years we have driven many miles for any kind of water-based recreation. The proposed reservoirs offer wonderful, affordable family opportunities for local residents. Perhaps you have to have lived here with nothing in order to appreciate how beautiful these reservoirs seem to us.

I intend to retire here - I like the idea of cottage sites, marinas, trees and water and I know that all of these developments will take years to implement. Nonetheless, I find it exciting to be part of the process of taking such a discouraging, fickle river like the Souris and putting it to use in such an attractive, appealing way.

We live in a very harsh part of Saskatchewan and the Souris River is much better known for what it takes than what it gives. The Rafferty Alameda Project is going to give us something beautiful, something I will enjoy very much and which I will be proud to share with tourists.

.../2

Much of the project is dedicated to agriculture and flood control all of which I applaud but I hope none of us lose sight of the fact that harnessing the water of the Souris will have a delightful effect upon our quality of life. After so many generations of loss and hardship, drought and flood, I feel strongly that we deserve this extra benefit.

Brian D. Marcotte
P. O. Box 67
Torquay, Saskatchewan
S0C 2L0
Telephone: 923-2229

Environment Canada
1901 Victoria Ave.
Regina Sask. S4P 3R4

Dear Sir,

Please accept my attached brief which I submit to you in support of the Rafferty-Alameda water management projects.

It is important for us who live in the basin to have this water resource for the future and because of this I urge you to recommend that construction resume immediately.

I have discussed this project with my neighbors, my friends and my relatives who reside throughout Canada and no one can understand why the project was halted.

You should also be aware that the taxpayers of Saskatchewan are being forced to carry the entire financial burden of the shut down, which we are told is costing us 100,000 dollars a day.

Every one of us is concerned about our enviroment, but we feel the protectionists have over reacted and created a media circus that bears no resemblance to the common facts of the matter.

Again I say to you please recommend the approval of this project.

Yours Sincerely,

George Marcotte

George Marcotte
Estevan Sask

I am writing to ensure that Environment Canada is fully aware of the extensive public support for Rafferty/Alameda in the project area. It seemed to me that at the recent public meetings, very little, if anything, was said about the many meetings we have had in the past, on the same subject. I want you to know that there is real ,significant public support for Rafferty/Alameda.

Since 1986, over 700 meetings with landowners and over 150 meetings with interest groups, the public and interested municipalities have been undertaken with the Souris Basin Development Authority. There has been plenty of opportunity for anyone and everyone to become as aware as they wanted to be of Rafferty/Alameda. The information has always been available and the office in Estevan has gone out of their way to be helpful. I doubt if any other project has ever tried as hard to be open and above board with the public as this one.

A poll taken by the Souris Basin Support Association indicates that roughly 80% of Rafferty landowners affected support the project. Eighty five percent of the privately held land in the Rafferty reservoir area has already been acquired by purchase. There has been no expropriation. In addition, other landowners have indicated voluntary interest in selling their land to the authority for wildlife or pasture mitigation.

The Rafferty/Alameda project is recognized for its value to the prosperity of this area. We were ready when work at Rafferty started, to throw all of our effort into that project. We are prepared to do it again when the license is reinstated. We believe that the project can take us into the year 2000 and guarantee the health of our communities for years to come.

Surely, now that we have an opportunity to solve a major regional problem, we should not let this opportunity pass. I respect concerns about the environment but people are also part of that environment and overall, this project can do a great deal of good for people. I urge you to allow it to proceed.

George Marcotte

BOARD OF ENQUIRY

Alameda, 8 July '89.

Dear Sirs:

I would like to present this brief to you as I have lived and farmed in the Alameda area all my life, and I know the saline nature of the soil. Professor D.W. Anderson confirms the fact that all Oxbow soils have a saline base, and states that salinity in this area is "the strongest deterrent to irrigation." — Fed - Prov Souris Basin study of 1970 - 78.

This is no doubt true, but the lack of a stable water supply in the Alameda reservoir will be even a bigger deterrent. There will be no water available due to the fact that Alameda reservoir will have to supply all of Souris Basin apportionment to the U.S.A. This is confirmed on page 6 - 30 of the Draft I.E.E.

I feel the recreation aspect of the Alameda dam has been over-emphasised. Firstly, you need a stable water supply for a suitable recreation facility. Secondly, water quality will become unsatisfactory due to salinity and natural upstream pollution.

The loss of Agricultural Production (cattle & grain) in this area due to these dams and the proposed additional acquisition of land will be not only a severe blow to the rural community, but also a near death dealing blow to our small towns that depend on these commodities for their livelihood.

There is a better and cheaper way to conserve water than this expensive, wasteful mega project.

I feel that these review meetings were not a suitable way of carrying out an environmental study. From what I can see, at least 95% of the opinions presented, were from people who had no knowledge of the environmental impacts of the project and do not realise the many detrimental aspects of the project.

Most of the people presenting opinions at these meetings had personal monetary gains in mind, without consideration of their fellow man.

Yours truly,

Donald McLean,
Box 152,
Alameda, SOC 0A0

JUL 1990
RECEIVED
ENVIRONMENT CANADA

PRESENTATION
OF
JOHN MCNEIL

IN RESPONSE
TO ENVIRONMENT CANADA'S
INITIAL ENVIRONMENTAL EVALUATION
ON THE
RAFFERTY - ALAMEDA PROJECT

Members of the Review Panel.

I am writing in response to the proposed Rafferty - Alameda Dams Project on the Souris River in south eastern Saskatchewan. I would like to express some concerns of mine where I believe there will be negative impact surrounding the project. First, however I would like to point out that I did not present a brief at the public hearings because in the past opponents of this project have been name - called, harassed and intimidated. I did not want to subject myself to this kind of thing again.

Some of my concerns are:

Water Quantity - I have lived all of my life (52 years) near the Moose Creek and know how inconsistent the water supply will be for the proposed Alameda Resevoir. As pointed out in the IEE the data used for computer modeling of the filling, operating and managing of the resevoirs is not consistent and strangely, statistics for the decade of the 1980's which has been extremely dry was not used in the initial modeling at all. This seems quite unusual to me.

Water Quality - I believe water quality will be a concern in the Alameda Resevoir. I contain my remarks mostly to Alameda because as I have said I live here. Several towns and villages dump their sewage into Moose Creek. Some of them are Arcola, Carlyle, Manor and Alameda. As well the R.M. of Moose Creek has a pesticide and herbicide waste disposal site situated on gravel and sand soil formation only a short distance from the proposed resevoir.

Water Quality

Runoff water will be filtering through and flowing over this contaminated soil and flowing directly into the proposed resevoir. Coupled with this is the unknown factor of contaminated runoff water from thousands of acres of farm land.

Water Fowl - As stated in the IEE the Alameda Resevoir will supply most or all of the water apportionment to the U.S. It seems to me that this will mean a great deal of fluctuation in levels in the Alameda Resevoir. I do not see how water fowl habitat can be mitigated under the conditions that I think will prevail. I do not believe that a lot of the proposed and promised mitigation processes can be carried out.

I have some concerns that I know are not those of Environment Canada, however I wish to express them.

If the Alameda Resevoir must provide for most of or all of U.S. apportionment where will that leave this community in respect to the promised irrrigation and recreation? I think we have been promised things that never can be a reality and will destroy Moose Creek and some 15000 acres of native grassland. Page 6-61 of the draft IEE speaks of mitigation of project impacts. Under 6.4.1 there is talk of land use controls etc. What unforeseen controls might farmers and water users have placed upon them in the future?

In closing I strongly urge that Environment Canada implement a complete International Joint Commission Study on the entire Souris basin river system and that this study be entirely independant of the Souris Basin Development Authority.

Thank You

John McNeil
Box 160
Alameda, Sask.
SOC OAO

John McNeil

WRITTEN PRESENTATION

OF

LILA MCNEIL

IN RESPONSE
TO ENVIRONMENT CANADA'S
INITIAL ENVIRONMETAL EVALUATION
ON THE
RAFFERTY - ALAMEDA PROJECT

To members of the Review Panel

I would like to express in the written form some of my concerns about the proposed Rafferty - Alameda Dams Project. These dams are to be located in the Souris River Basin in south eastern Saskatchewan.

Listing my concerns, not necessarily in order of priority

Sociological Impact of the communities

1. No study was done on this aspect of the project. It has become obvious that for the people in close vicinity who have opposed the project or who questioned the project the sociological factors have been extremely negative. We hafe been subjected to name - calling, harassments and intimidations. Many different approaches have been used to try to isolate and discredit those of uswho are opponents. This low insurgency warfare has been carried out by members of the legislature, members of the SBDA, and members of the support group; with their travelling road show. A war like mentality and an attitude of pushing the project ahead by any means has been the order of the day. The concept has been one of win - lose. Proponents being the winners and opponents being the losers. Instead of a win - win scenario which could have been achaived through around the table dialogue. I know your meetings were set up in the attempt to accomplish this. But I might say they came too late as the damage was already done. Most people were not going to subject themselves to anymore warfare. Anyone who might have had reasonable and helpful questions remained silent. One of my arguments about how this project was pushed ahead is: the community spirit of interconnectedness and cooperation of the people has been destroyed. Those who have struggled with the lack of concern the proposed project has for the environment have been subjected to the loss of our places in the community. How will this be mitigated? I propose that anytime in the future when mega projects are proposed an impact of the project on the people must be givin consideration. Are people not considered part of the environment? As one who has lived in and worked in this community all of my 43 years of life.and as a person who places a high value on quality life I find the tactics used inexcusable. People must be treated with respect and dignity whether they are a proponent or an opponent. The abuse of authority by people in power positions has been deplorable. How will we learn to be a people growing in conciousness toward the environment if this abuse of authority is allowed to be carried on?

2. At the public information meetings in answer to some of our questions information was with held. The location of the Alameda Resevoir being an example. Different answers to the same question were givin to different people; there was a lack of honesty and integrity. When one brought up questions that were pertaining to lack of information one was often told to never mind that concern. it will be looked after at a later date. After being lied to by people in the power positions it became extremely hard to have any faith in their word. It was like asking the fox to tend to the chickens in the chicken coop. Whose needs would be met?

3. A delegation that consisted of farmers from along the Moose Creek who were all going to be directly affected by the proposed Alameda Reservoir met with Eric Bernstein. This meeting was held to ask questions we were not being givin information for from the SBDA and areas that lacked information in the EIS. Sometimes when questions were asked of the SBDA they answered that it was a federal concern and that was the only answer recieved. Wildlife was one of those areas. During our visit with Eric Bernstien we discovered by his comments he had little concern for the aspect of wildlife. He even tried to plant seeds of dissent that would have pitted the wildlife people and the farmers against each other How could we have faith that the wildlife would be givin consideration that they are due? When the question about the posible threat of the can disposal sight which is situated within drainage distance of the Moose Creek was raised the answer we recieved was " I have been busy over in Europe trying to sell your wheat." This comment was made in the context of an attitude that we should be worrying about things he thought really concerned us. His attitude was for us to just forget the environment and get on with our grain operations. This leavesme wondering how high a priority the environment is to some people in the government? Who will look after the provincial concerns and who will look after the federal cncerns? What will happen to things that fall into both jurisdictions? Will they get lost in the shuffle or fall through the cracks?

Water use

1. No where in the EIS or the IEE does it ever state which priorities will be met first. It has been stated that the apportionment is alloted first. Some years when water levels are high this will not be a concern. but when water levels are low. who will get top priority? I believe this questioned must be answered now. not left to be hassled over later. I also believe that towns who hope to draw water from this resevoir could find alternate services that would do alot less environmental damage.

Water Quality

1. Both of the resevoirs will get their water supply from runoff waters coming off the surrounding lands. There are no fresh mountain streams to help flush out the system and help improve the quality of water. I beleive we need to manage water and learn better methods of conserving water. I do not beleive large resevoirs are the only answer. Studies to date have looked at mega projects. Why haven't alternate methods of water management and flood control been explored?

Wildlife

1. If Moose Creek valley is flooded by the proposed Alameda Resevoir the natural habitat of the existing wildlife will be destroyed.

Wildlife

Where will the wild life go when the Rafferty Resevoir floods the upper reaches of the Souris . If they move into the Souris River System further down stream who will look after their welfare? Under whose jurisdiction will all of the wildlife fall? Will it be provincial or will it be federal? Will only the endangered species be considered by the federal government? I have grave concerns around the question of wildlife for much of our society places little value on wildlife welfare. In the EIS and the IEE there is a lack of information on the outcome for wildlife and plant species.

Recreation

1. In the IEE 4.2.5 it is stated that the Rafferty and Alameda resevoirs are intended to provide an opportunity to satisfy a water - related recreation need for south eastern Saskatchewan. No where does it give information on how this was assessed. What data or statistics was used to make this statement that it is a need. It might be a want of some people, but to classify it as a need is questionable. Do we create needs by the way we advertize our tourism? The dictionary definition of recreation is to create anew, restore, refresh, refreshment of strength and spirits after work: a means of refreshment or diversion. Is development of large resevoirs the only means of satisfying water related recreation? I believe we must learn to promote recration that will help people get back in touch with the earth in a more naturalway. These programs must be started now so people will realize we are all stewards of the earth. Our creation is already groaning in crisis.

Recreation

We don't need more projects that continue to rape and plunder the environment. We must educate the general public that each of us has a responsibility to all of creation not just to ME.

Federal Lands

1. In the IEE it states that full mitigation would be achieved through the replacement of pasture lands with lands of equal productivity. I believe productivity is a major factor, but only one factor. As our native grasslands become more extinct the fact that as many acres will be lost forever by flooding is incomprehensible to me. One cannot replace the land, where does more land come from? How do you mitigate for things like being able to drive cattle on hoof to pasture? How do you mitigte for the disruption of peoples lives? How do you mitigate for the period of transition? How do you compensate people who are forced against their willto make changes in their lives?

In conclusion I would like to urge and recommend that a comprehensive basin wide study be carried out by an independent group. This group must be totally independent of the SBDA or the Saskatchewan government. A study that will address all the known concerns before hand. lets not leave the concerns to chnce. We have an opportunity to set the environmental stagefor the future. I urge you to take up this opportunity.

Thank you
[illegible]
Box 160
Alameda, Sask
S0C 0A0

To Environment Canada Regina Sask

From Paula Murphy 834 3rd St. Estevan Sask

My purpose in writing is to respond to the material provided by the Enviroment Canada officials at public meetings on Rafferty Alameda dams. I am willing to listen to what people say. This is my home and obviously, I don't want it harmed.

It is difficult for me to have confidence in your department's evaluation, when you focus on nonsense like navigability on the Souris. Rafferty-Alameda cannot possibly "interfere substantially with navigation" on a river which frequently has no water. The Souris is only "navigable by small craft" during runoff. When the runoff ends; so often does the Souris.

As far as other concerns go, I think it all relative. Relative to things as they now stand. Rafferty-Alameda will be better for wildlife and water than the "status quo". In the absence of anything else, it would be foolish to stop this project.

P. Murphy

Mrs. Paula Murphy.

LOIS NEEDHAM
P.O. Box 575
OXBOW, SASK.
S0C-2B0

June [illegible]

I am a farm family that goes back [illegible] years in the south Alameda area and at present my father is still living at 98 years of age with a very good mind.

We were very upset when we heard that the construction of the Rafferty and Alameda Dams were stopped. Where is our logic and thinking. We have to conserve water and store as much as possible. These people who are farmers that support Scrap and have cattle, ask them how many dugouts they have and was there a environmental study on them before they dug them.

As a farmer and a resident of south Alameda all my life I support the dams all the way. The Alameda Dam will be close enough to my farm that we can irrigate and in the dry years this will be our bread and butter and we also have to remember that if the farmer can't grow a crop the people in cities also suffer from higher prices.

The dams will bring in tourist trade to our dying town of Alameda. I had a vacant house in Alameda for five years and two weeks before the dams were stopped I sold it to a construction worker from Winnipeg. This is putting a big strain on people as these dams and power plant make a living and support many families.

My father has said many times over and over that in his 98 years it has seemed to get dryer and how nice and beneficial it would be to have a large dam to store water.

Respectfully yours,

Lois Needham

Lois Needham(Payette)

MONTY NEEDHAM
[illegible]

P.O. Box 575 *(306)483 5067*
Oxbow Sask. S0C 2B0

June [illegible]

My name is Monty Needham and have lived in the south [illegible] area for over 30 years, having [illegible] here and then started farming some 5 years ago.

My grandfather came here in 1901, started farming, then my father took over from him and when my father retired my wife and my family carried on the tradition. I [illegible] always remember my father saying that if only we had a large body of water it would draw rains, it always seems so dry.

Many years we have farmed with very little rain so I have had to take work off the farm many times and worked as an industrial construction worker in the [illegible] field. I have spent a considerable amount of time working for Sask. Power building and repairing their dams and power plants.

The most recent large project that I was employed at was the power plant at Coronach, Sask. I can remember very distinctively people around Coronach opposing the construction of the dam and power plant. It was only a few months after construction started that many opposing the project became very favourable of it.

When the rumors started to float around of another large project like the two generators built at Coronach, the town of Coronach sent a delegation to Regina to try to have this new project near them again, and when it was announced that it would be at Estevan this same town went against the entire project.

In my many years of experience the building of the RAFFERTY and ALAMEDA DAMS, along with the SHAND POWER PLANT, will bring nothing but prosperity and enrich this whole area.

Boundary Lake has proven to be a very popular place for recreation and fishing. It serves as a cooling pond for Boundary Dam and a much need water supply for Estevan. 1988 was the year for every one in this entire country to remember how much water is needed and we never have too much. With the two proposed dams, we would have the much needed water for our every day needs from household to irrigation, to flood control.

All we hear these days are the negative things. Many said that Boundary Lake would never fill and if my memory serves me right it filled in three years. Ask people that have house boats and year round homes what they think of the lake. Many more are waiting for lots to build homes on. I think that just in this answers the question, is a man made body of water in southeastern Saskatchewan needed and wanted. The answer is **YES.**

With the large runoff that we have had in the past [illegible] and River Park at Oxbow, flooding Main St. and taking with it tons of much needed soil, it is time that we control our water and keep what we [illegible].

All I can say, **WE NEED WATER, BUILD THE DAMS**

Respectfully yours,

Monty Needham

July 7, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

I strongly believe in the Rafferty-Alameda dam project. This project, which my future and the future of my family depends on, is a responsible project. For the people of Saskatchewan the dams will ensure an environmentally sound system of water management in place. I believe in the use of water management and to make the most efficient use of the water around us. If we don't manage this resource, we will continually see it wasted.

Water management is perhaps my major concern about the project and now we are able to control this resource and manage it properly. It is this resource that is so desperately needed and simply must be retained and put to proper use. Proper water use also includes retention for irrigation, wildlife, and recreation.

The IEE mentions lower flows to Manitoba and North Dakota. Saskatchewan is entitled to keep 50% of the water originating here. It must pass the remainder on. It must not be forgotten that the dams are only on two rivers in the basin. The other rivers and creeks which originate in Saskatchewan are not dammed and still flow in their entirety out of the province. The dam project simply allows us to keep our rightful 50% in Saskatchewan for Saskatchewan use.

You say wildlife may be hurt or damaged by the dams. Yet without water, no living thing in this world can survive. If you take a look at where there is no water, there is a desert. Life in the desert is minimal and, in some parts, doesn't exist at all. The rainforests of Brazil, Africa and SouthEast Asia have an abundance of life. The water provides the kind of environment conducive to that kind of development.

Recently, we've seen dry years, we know what its like not to have water. We also know what it is like to have a sharp declin in the waterfowl population. How many times have we heard lately that the duck population in this province is shrinking? According to the IEE, there will be a duck loss in the Souris Basin if the dam projects go ahead. It is a simple fact that the duck population is low because there is no water around. The waterfowl go to where the water is. All migratory birds do.

We view water in the area to be an important resource and that is why we think the development of a water management program is needed. Without this project, we cannot take advantage of the opportunities that come with water. Considering water is the most important resource next to people, why should there not be management of water resources, especially when we manage or control human resources, energy resources, and natural resources. It is this kind of management that would benefitus all. The commitment of the people in the area to the environment is without question. This is a commitment that is unshaken and it is this kind of commitment that we are proud of. We would enjoy water in the area so why shouldn't we develop it to suit our purposes as we do other resources? This is the kind of development that this province should be going ahead with. We can develop it in a pollution-free environment and keep it pollution-free. That is a commitment we have made and it is a commitment will keep.

There are numerous benefits in the context of a water management control plan. The project allows us to participate in and, decide on the future of our own water. We are not prepared to let it slip through our fingers like the spring floods. We want this opportunity to build and we want this project. Thank You.

Otto Neuman
Alameda, Sask.
489 4915

Oxbow, Sask.,
July 7, 1989.

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

My purpose in writing to you is to highlight those elements of the Rafferty Alameda Project which hold potential for recreation and tourism in the area. The proposed reservoirs offer wonderful, affordable, family opportunities for local residents. I, for one, am unconcerned about possible algae bloom. When for years you've picnicked by the water surrounding slag heaps, maybe you aren't so choosy. Perhaps you have to have lived here with nothing in order to appreciate how beautiful these reservoirs seem to us.

I want to retire here. I like the idea of cottage sites, marinas, trees, and water and I know that all of these developments will take years to implement. Nonetheless, I find it exciting to be part of the process of taking such a discouraging fickle river like the Souris and putting it to use in such an attractive, appealing way.

We live in a very harsh part of this province and the Souris River is much better known for what it takes than what it gives. The Rafferty Alameda Project is going to give us something beautiful, something I will enjoy very much and

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which I will be proud to share with tourists.

These same tourists also represent opportunity for the area. Their expenditures mean more business and employment opportunities for residents here. Our economy has suffered a great deal in recent years. The experience has made us increasingly aware of the need for us to break away from our dependence on agriculture. This corner of the province has been like a single industry town. Poor crops, drops in cattle marketing, and we all suffer. Rafferty Alameda offers economic diversification in an area that desperately needs it.

Still, however much of the project is dedicated to agriculture diversification and flood control - all of which I applaud - I hope none of us lose sight of the fact that harnessing the water of the Souris will have a delightful effect upon our quality of life. After so many generations of loss, and hardship, drought and flood, I feel strongly that we deserve this extra benefit.

Yours truly,

Garry Nyeste
Tel: 483-5162

Box 363,
Oxbow, Sask.
July 7, 1989

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I am writing to you as part of what I fear may be a last ditch effort to save the Rafferty-Alameda Project. Having attended the recent public meeting in my area, and having witnessed the active disinterest of the media in hearing anything good about the project, I feel it's incumbent on us, to continue to drive our point home. Far more of us want this project than not but it seems that this is not sufficiently controversial to make the national news.

You are not a western minister. I have no idea whether you even know what flood and drought do to farmland, yet you have the power to ruin our lives - or save our futures. I want to make sure that you really know about the Souris before you make your decision.

For over a hundred years, spring floods on the Souris have been recorded. Generally the wet springs are followed by very dry summers. For over 50 years, we have known what it would take to

improve the situation.. We are close enough to our North Dakota neighbours to have seen how they have turned water storage to their advantage and to know that they have done it with our share of the water from the Souris. I don't begrudge what the U.S. has achieved, if we cannot get our act together to use what water we've been given, then maybe we deserve what's happened so far. But we sure don't deserve what is happening now.

We worked our butts off to get government on our side to build the Rafferty-Alameda Project. We presented our case to every agency we could get to listen. We lobbied every politician - whatever his stripe. We went to public meetings, we made it an issue for local candidates in municipal, provincial, and federal elections.

I thought we made our point, that government had heard what we had to say - and I can not express how angry I am to have seen the fruits of our effort, of our commitment destroyed because a series of bureaucrats couldn't agree on how to comply with their own rules.

Quite apart from what it has cost this community in lost hope, I want to make the point of what this fiasco is costing the taxpayer while our project - and I mean our project, the one we worked for - is on hold. The figure I got is that a 90 day holdup is costing us about 6 million dollars. That's about $67,000 per day of taxpayers' money/ A one-year hold up is going to cost an extra 12 million dollars for Rafferty with an extra

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escalation of costs resulting from delays at Alameda, of 3 million dollars.

We were barely able to convince government to spend the money for the dams we need as it was - only the U.S. involvement and the industrial application at Shand made it feasible. Now, with your fiddling with your license, your inability to ' live up to your commitments, you are putting a lifetime's work and dreams and hopes in jeopardy.

I am urging you to decide in your project's favour, and to decide fast. We, who live here, who participated in the planning and development of the project, are prepared to take responsibility for it. I hope the federal government will not want to be responsible for losing Rafferty-Alameda.

Yours truly,

George Nyeste

George Nyeste
Tel:483 2425

There is nothing in the world more important to the people of Saskatchewan than water in almost any form. Not a shower now and then or a spring runoff that are only a portion of our requirements. But rather a constant supply that is available when required and can be counted on when needed.

In hearing that Saskatchewan is an agricultural province with little or no industry or diversification from agriculture, I would like to suggest that the biggest drawback is due to the fact that we do not have sufficient or a constant supply of water. Industry and investment require water in large supply before they will even consider a specific location. I am in no way suggesting that the proposed Rafferty Alameda dam is the total answer, but it is definately a step in the right direction.

Let's compare the proposed Rafferty Alameda Dam to other Dams that have been constructed throughout the province. [of which there are many]. There never seemed to be the fanfare, publicity or adverse comments pertaining to them prior to their construction and even less since their completion. I would like to suggest also that there has been at least as much or more study gone into the Rafferty Alameda and likely a great deal more. These dams have proved throughout the years to be extremely benificial in many ways wherever they were constructed. If one were to check with the local residents where these dams were constructed I feel confident you would hear nothing but praise for such things as agriculture, business, development, industry and recreation of all types to mention only a few. Others would even go so far as to say they do NOT know how they got by prior to the construction of the dam. What would draw anyones conclusion that the Rafferty Alameda would be any different. In fact due to it's location it may just be more important than others.

I feel strongly that wildlife plays an insignificant role in the resistance to the construction of the dam. I also feel that politics are the greatest factor being headed by a group pretending to be interested in wildlife when in fact their main interest is political.

I am an ardent outdoorsman having been a licensed guide and outfitter in the province for almost thirty years in both northern and southern Saskatchewan. I cannot for the life of me see how this project would be detrimental to wildlife in any form. The other dams that have been constructed throughout the province have not proved to a detriment to wildlife but have rather enhanced it. If one doubts this all you have to do is visit an existing dam and see how much wildlife is in the vicinity that were nonexistent prior to the construction of the dam. It is a known fact that wildlife in all forms as well as birds are extremely adapt to change and merely travel a short distance to find habitat to their liking.

continued on Page #2.

For example birds can change their homes and travel easier than any other animal. In Saskatchewan we are blessed with three out of four migratory flyways, the Pacific, Central, Mississippi. The only one that does not cross through our province is the Atlantic. All three of these mentioned flyways are located almost directly over the proposed site of the Rafferty Alameda dam. Migratory birds particularly water fowl require water to rest on and replenish their energy and food supply. Other birds require food, shelter and lush surroundings that only water or wet areas supply. Saskatchewan also happens to be North America's duck hatchery and supplies better than one third of the North American supply of wild ducks that would also be using the migratory flyways as well as the proposed Rafferty Alameda dam twice a year enroute.

I read of concern from an outfitter in the Weyburn area regarding flooding and upstream wetland drainage and that it would destroy wildlife and upland game habitat. This could be possible in isolated areas but not in sufficient volume to be over concerned about it. All that will happen in these instances is that the birds will move to another area nearby. Granted they will not be in the exact spot but will relocate not far away. I feel these fears are unfounded and should in no way influence their income. Upland birds in particular are constantly on the move usually staying near a food supply. Nature has a wonderful way of caring for it's own.

I have personally had communication with Mr. Kenneth A. Brynert executive vice pres. of Canadian Wildlife Federation prior to his action to stop construction of the dam. I tried to persuade him against taking such action but he gave me the opinion he was more interested in seeing that Governments lived up to the letter of the law than he was in the betterment of wildlife. I have since ceased any ties with his organization due to this matter.

I sincerely hope you give this brief consideration with regard to the Rafferty Alameda Dam project. I firmly believe we should continue construction immediatly in this regard.

Howard Osman
P.O. Box # 3449,
Regina, Saskatchewan, S4P 3J8.

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AND OPERATED

the Estevan Mercury

PHONE
634-2654
634-2655

BOX 730
ESTEVAN, SASK
S4A 2A8

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CANADA

June 26, 1989

Mr. Chairman:

I submit this representation to you from the Estevan Mercury newspaper, address noted above. This is in reference to the hearings organized to address the federal concerns with regards to the construction of the Rafferty and Alameda Dams.

We refer you to our earlier submission filed during the first round of hearings, conducted on the provincial scale and the accompanying special edition section of the Mercury of September 9, 1987.

It was noted then that in just nine days the Mercury received editorial and advertising support from no less than 219 general retail outlets, 16 national or international corporations, two unions, nine institutions and 38 individuals or families who decided to get off the 'silent majority' list and become more vocal in support of the Dam projects.

It was also noted that due to time restrictions the geographic area covered at the time was limited to the city of Estevan and the towns of Bienfait and Midale only.

Please note also, that since 1912 the Mercury has recorded reports from citizens in the area who were suggesting and eventually pleading with various government officials to do something about the control and management of the Souris River , Long and Short Creek. The need for a dam has been supported in essence by political parties of all stripes. Unfortunately the need now has entered into the political realm for self serving needs and the clear cut arguments on both sides of the issue are being drowned out by those who chose political rhetoric

for personal gain in the political or national organizational levels .

We firmly believed two years ago, and continue to believe that the negative factors surrounding the dam and the environmental impacts are being addressed.

We firmly believe that more deer are lost along southeastern Saskatchewan highways in two months than what would be destroyed by the influence of a dam.

Long term benefits for water fowl and other wildlife will far outweigh the temporary negative factors. Water is the key ingredient for all creatures ... men, bird and beast.

Negative factors will surface, but similar projects in other areas, for the most part, have been quite successful in serving a need while providing for the creatures who cannot speak for themselves.

Those who live in an around the Souris River Valley are quite sensitive to the delicate eco - system that exists and its current limitations for supporting economically viable farming operations and waldlife habitat. We believe that a large impoundment of water will enhance the opportunities.

We do honestly believe that the animal and fowl worlds do respond to changes , adapt, survive and thrive even though they cannot speak up . They do this with the benefit of water and feed which will be available with a dam.

If no birds were to fly overhead, or no fawns were born each spring and no squirrels came around for our entertainment then we would be opposed to Rafferty Alameda Dams.

But we maintain that if the dams are built, our judgement will be rewarded by new decades and generations of wildlife in abundance while the problems of agriculture, flood control, economical cooling of a generating plant and recreation will be addressed and solved in great measure.

We believe that the areas such as economics and flood control have been addressed adequately in other submissions so we simply present our view in this submission that the concerns appear to be satisfactorily met and the Souris Valley can thrive more effectively with water that will be

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clean and sufficient enough to send along to our Neighbors in North Dakota and Manitoba.

Saskatchewan has prided itself for decades as being a province well endowed with good neighbors , a sharing and caring attitude that no amount of political posturing will deflate . We do believe this attitude will survive this test too. We do trust that 10 years from now, with the Rafferty and Alameda Dams in place, the province of Saskatchewan will still be recognized as a province that realizes it's responsibilities and does something about them.

Submitted by
Norm Park

on behalf of the Estevan Mercury
co signed by
Peter Ng

publisher

Mrs. Alice Pawson
Box 472
Estevan Sask
S4A 2A4

JUL 1989
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CANADA

The Environmental Impact Study

This brief is a personal one, from a member of a family who had many memories of floods-and of times when there has been too much water going by.and of other times when there has not been enough to be useful.

As one of the pioneer families in the Estevan area, probably no other family has had a closer association with the Long Creek and Souris floods than the Pawson family. Mr. George Pawson came to this area in May 1892 walking from Oxbow, which was then the end of the rail, and he homesteaded here on SE 1/4 10-2-8 almost at the junction of the Souris River and Long Creek. In 1904 a severe flood left one point on the valley site out of water and that is where the original frame house was built.

There was a market gardening business on this property since the turn of the century and until recently was known as "Pawson's Market Garden". In 1945 we entered the seed potato business, growing certified seed potatoes and this expanded in 1948 to a potato eye business also.sold under the brand name of "Pioneer Potato Eyes". These potato eyes were cut from the seed potatoes we had grown, they then were packaged and shipped across Canada from Labrador to Vancouver Island, until the business was discontinued in 1987.

The 1946 flood was memorable as we were in the potato seed business at that time. We were completely isolated for two weeks. The water ran bank to bank for 5 days and the battle was on to save the potato crop in the root cellar as the water seeped in from below. That spring we lost 2 root cellars full of potatoes.

In earlier times, when Long Creek was in flood, it usually came down several days ahead of the Souris drainage, so that the water that backed up into the Souris basin at the junction had time to escape, before the Souris drainage came down. Long Creek originally delivered as much water as the Souris in flood season, but in these later years, the flow from the Yellow Grass Marsh, adding greatly to the build up at points where water cannot get away quickly.

Boundary Dam was built in 1955 and we did not have many water problems until 1969, when the first of a series of floods plagued us. In the beginning, the people monitoring the flow at the dam had much to learn about regulating the runoff, particularly when the orders came from Regina, and they were unaware of the local conditions. In later years when the technical people such as Mr. Mcdonald, Mr. Mahood and Mr. Klippenstein were stationed at Estevan during flood time, they did an excellent job of supervising and monitoring the flow thru Boundary. The helpfulness and their courtesy in keeping us in touch with what to expect, coming from upstream and with the opening of the gates, will be remembered with gratitude. We might mention also, Mr. Jack Chapman of the Boundary staff who could be reached for information if necessary.

In 1974, we had a severe flood and our roads were impassable from April 18th-28th. We had several people employed during the potato eye season and this meant they had to walk more than 1/2 mile to get to the buildings to work. To get our orders out, we had the use of a CPR hand cart, on which the boxes were loaded, pushed across the rail spur crossing on the Souris, to a truck waiting on the other side of the flooded area, unloaded from the cart to the truck, and taken to be shipped. The work load was enormous and at a considerable extra cost, but we were committed to orders to be shipped on a specific date and we did our utmost to do so

In 1975, we repeated the process, again we were 18 days without a road on which we could drive and it was May 13th before we used the road again. Phone lines were out and we were concerned for the safety of the people who worked for us.

In 1976, we could not drive into our garden area for 3 weeks, April 1st-20th. The employees walked in and out, part of the time from the Boundary Dam road, as the CPR had put a railway car on the spur track for ballast,to hold the rail bridge on the Souris in place, from April 3rd-12th. In spite of all our problems, we cut and delivered more than half a million potato eyes that spring. That is a lot of shipping under incredibly difficult circumstances.

In 1979, we were flooded from April 22nd to May 11th. The water went over highway 47 south.

During these later floods, our own problems have been compounded by the uncontrolled diking of several properties immediately below the junction of Long Creek and Souris, which has backed up the water and held it longer on areas which affect us. This is not a normal river flow any longer.

At no time did we request or recieve any compensation or public assistance to get out of any flood situation. We coped as best we could, at our own expense. The only help we have had, aside from the loan of the CPR cart and the use of the rail spur, was the normal municipal repair work to roads and bridges which would allow area traffic to resume.

The last few years have been flood free, but we all know the floods will come again, then what will happen in the valley? The dangers will increase if we do not have some control. We think of the increased drainage from the Yellow Grass Marsh. There will be increased drainage from the Torquay area into the Boundary reservoir. Surely some control would be helpful with careful monitoring. In 1948 was a bad flood, but it was not the worst one in the valley, by all reports 1882 was much worse. We could have much greater floods in a longer cycle.

If the environmental people had been really concerned with the negative effect on the wildlife and their habitat, the time to be concerned was before large areas of the natural habitat was destroyed in this area. For years the Yellow Grass Marsh has had uncontrolled drainage. This is an area of marsh land draining into the upper Souris Basin and was a natural habitat for birds. Another area was drainage near Torquay in which a large slough was drained into the Long Creek system. We did not hear a word by environmentalists on the impact of these projects on birds animals or people. We put in a brief against the drainage from the Torquay project-principally because of the excess water which would come into Boundary Reservoir at a flood time. This excess could put anyone below Boundary Dam in considerable danger.

We did at one time feed the starving deer in our yard in the wintertime. We no longer do so. The numbers of deer have increased so much that it is impossible to grow a fruit tree in our yard unless each one is individually fenced. The junipers at the back step have to be covered-otherwise they get eaten. Where we once grew a thriving market garden crop we now must put an electric fence around a small home garden. The deer feed on our alfalfa year round. There were no such problems growing a crop 100 years ago, or indeed until the last 10 or 15 years.

Apart from a few bags of blood meal and the loan of scare cannon to scare off the wildlife we have had no assistance at all from the wildlife people or the conservation officials. If these people wish uncontrolled wildlife habitat they certainly should be prepared to compensate people trying to grow a crop.

Yes, we are in support of Rafferty to make our valley safer for those who will live here; to have water when we can make use of it; and to benefit all those who live in the area.

Thank you for the privilege of presenting our views.

June 24, 1989

Environment Canada
Inland Water Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3A4

Dear Sirs:

In presenting this brief, I wish to go on record as being in support of the Rafferty-Alameda Project. My purpose is to try to describe for you what will happen without this project.

Many people have been talking about the need for flood protection - I think some of us wish this spring had been a flood year. Certainly, no one would have dared to revoke the license if the water had been roaring thrqugh as it has done in the past. The current tragedy is that had the license not been revoked, the reservoir would have been holding water by next spring. Because of what's being allowed to happen here, we have lost yet another year of protection. Even if allowed to start up tomorrow, too much time has been lost from this construction season for us to have the protection we otherwise would have had next year.

By September, 1988, the Saskatchewan Water Corporation had received 8,000 inquiries regarding drought. Twenty-three towns in southeast Saskatchewan were out of water. Three million dollars in drought relief had been paid out by the Saskatchewan government. This spring only looks wet. Water tables in the area are still low and the drought is definitely still with us. We know, that as a result of the disaster caused by revoking the license, the reservoir will not be in place this year, or next, but we need it nonetheless.

If the dams had been built in 1920, there would be two Shand stations, flood protection and water for recreation as well as for irrigation of 12,000 acres. The reservoirs would be 80% full even after the recent dry years.

Had the dams been built in 1959, even though 1960 was a dry year, the first Shand station could have been built in 1961 and the second in 1967. The reservoir would have 300,000 acre feet of water and could survive several more years of drought without water shortages.

But here we are - we almost built the dams - we almost had the water - and now we are in limbo.

This project has to be reactivated now for all the reasons we have given for all the years we've been giving them - we cannot afford to go on waiting. It just costs too much.

It's costing us in flood damage - millions of dollars here and in Manitoba; it's costing millions in drought relief; and it is costing $2m/month for every additional month's delay.

The license has to be reissued and we have to build these dams. Every year we wait, it will cost us more. These costs involve the federal government as well as the provincial. It is in everyone's best interest to use Rafferty-Alameda to promote development of effective water management in southeastern Saskatchewan.

Sincerely,

ALLAN POTTS
1825 Alice Road
Estevan, Saskatchewan
S4A 1G7

Hon Lucien Bouchard
Minister of Enviroment,
Ottawa,Canada.
22.06.89

Dear Sir,

This letter is to inform you of our fullest support for "Friends Of The Valley", a Saskatchewan based coalition who are calling for a complete independent study of the Rafferty-Alameda dams project on the Souris River.

Many members of our parish have expressed serious concerns about the potential destruction of the natural enviroment of the Souris valley along with the humanitarian and social problems that will arise if the project proceeds as currently planned.

We therefore join with "Friends of the Valley" in calling for a full independent study,preferably by the International Joint Commission to finally resolve this controversy.

Yours Truly,

Michael Quinn
Fay Engle
Fay Engle
Social Justice Committee
St. Peter's R.C. Church
100. Argyle,
Regina,Sask.
S4R 0C3

Carnduff, Sask.,
July 7, 1989.

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I am writing to assure you of my support for the Rafferty-Alameda Project. I have endorsed the dams and reservoirs as a concept since they were raised at public hearings during the seventies. I followed the progress of the project through the hearings in 1987 and appreciated the opportunity to make my suggestions to the project planners. Perhaps I flatter myself, but my impression is that people in the Authority heard my concerns. As it develops, it seems that they listened to many of us in the area for we can see our advice in many of the reservoir features. This has been a satisfying picture. It was with considerable gratification that we watched the work at Rafferty begin.

My confusion is genuine when I find that while we were wholly aware of the nature of Rafferty-Alameda, and its impact, Environment Canada apparently was not. Exhaustive analysis have been undertaken for a period of many years. Surely sufficient information exists that you can satisfy yourselves

as we have done, of the strengths of the project. If more information is required, it would have been far more responsible had you acquired it while construction was underway. To halt construction, putting the project at risk and people out of work was reprehensible to say the least. The fact is, the license was withdrawn because of a failure on the part of federal officials, not on the part of the project. The omission is yours, yet we who live here bear the brunt of your failure. Shall you be sending a group of your officials to assess the environmental impact of your decision on us? I guarantee you that it has been negative.

My chief concern is that you appear to be forgetting why we want to see Rafferty-Alameda built. We want to conserve water, regulate its flow and diversify the economy. I believe that every effort has been made to ensure that this project is environmentally friendly. In fact, it contains numerous features that accommodate wildlife and waterfowl in a more responsible strategy than has ever been implemented.

I object strongly to suggestions that we, who live here, have been in some way negligent in protecting the area. We make our homes here and care deeply about what happens to the land. Certainly we would never endorse a project that harms us. Our hope is that in recognizing this, you will ultimately endorse the project which protects us and our homes.

Yours truly,

MONA RAE
Box 396
Carnduff, Saskatchewan
S0C 0S0

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My name is Mona Rae, I live in Carnduff, Sask. I am a hommaker also employed part-time with two jobs. I have lived within a 25 mile radius of Carnduff for the past 34 years.

Ladies and Gentlemen:

I am writing to you about the Raferty Alameda Shand projects, and as a concerned individual, the benefits they will have for tourism in surrounding area.

First of all, the increase in recreational possibilities, and along with that increase the increase of tourism in the area. The Raferty Alameda will be the biggest project in this part of the province. The formation of the two areas will make the more established parks such as Raferty Park & Alameda.

Naturally with two new facilities there will be more water sports and more varied water sports in this area. Along with the increase in other outdoor activities such as camping, hiking, photography, nature interpretation and trailriding. All of these things will serve to attract people.

With all of this increase in tourism there will be an opportunities for the development of resorts. With the development of resorts there will naturally be an even greater influx of tourists. Eventually, they will come for winter sports such as cross country skiing, ice fishing and hunting. All of this will provide job opportunities for people, year round jobs, and summer jobs for students.

When the Raferty and Alameda projects go through, tourism will become a powerful and beneficial industry in the province. Therefore, I fully endorse the project and encourage others interested in tourism to do the same.

Mona Rae
MONA RAE

MONA RAE
Box 396
Carnduff, Saskatchewan

MR. CHAIRMAN, I would like to make a short statement:

Providing on additional area for tourists to enjoy can only be beneficial to the area. The Moose Mountain Provincial Park 70 km from where I live, was reporting on the radio the morning of July 1st that the park camping was already full. Deterring many would be park tourists, either staying home or making alternate plans, because the park was overcrowded. Therefore there is a need for more established parks such as those projected with the Rafferty Alameda projects.

The short and long term jobs to be derived from this project are also badly needed in the area.

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CANADA
[illegible]

Carlyle, Saskatchewan
S0C 0R0

July 7, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan

Dear Sir:

I am writing to advise you of the whole-hearted support of myself and my family for the Rafferty-Alameda. We were unable to present our brief to your officials at Oxbow. There were so many of us, so unanimous in our support, that apparently your officials didn't have time for everyone.

I hope you are told how very important this project is to southeastern Saskatchewan. By regulating flow and conserving water, Rafferty-Alameda will bring many benefits to those of us who live here.

I am struck by the enthusiasm so many local people have for the recreational facilities that the reservoirs would make possible. Water-skiing, boating and affordable new cottage sites are very exciting in a water-starved area like ours. Frankly, I wanted the reservoirs for irrigation. I hadn't considered all of the other aspects of a large body of water. Now I am even more keen on the project.

The land use planning for Rafferty-Alameda is a first of its kind in this part of the province. Every effort appears to have been made to provide a thoroughly responsible use of the resources available. At Public Hearings in 1987, we saw detailed drawings of how wildlife habitat and unique ecosystems and public requirements could be made mutually compatible. There is no doubt in my mind that the planning process has made every effort to ensure protection of the environment while undertaking a highly valued, very welcome, improvement to our quality of life.

In addition to recreation for local people, the reservoirs are also bound to attract tourists. Our highway system moves a lot of north/south as well as east/west traffic but we don't hold these travellers. The dams and reservoirs will be attractive stopping points and that means good opportunity for small businesses. Tourism dollars are currently lost to this area and this project would capture a good portion of those expenditures. More income in the area means more full and part-time employment for us.

..../2

These reservoirs make so much sense, I urge you to allow construction to proceed.

They will improve our quality of life through regional development and increase economic opportuntiy and diversification in the area. These, as well as the environment, are federal responsibilities and should be given due consideration in your review.

Yours sincerely,

Allan Richardson

Allan Richardson

Tel: 306 453-2895

Bob Scott,
Glen Ewen, Sask.,
July 7, 1989.

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I am writing to express my support for the Rafferty-Alameda Project. I see it as vital to the future of this area. We need water desperately. Last year our pastures were in very poor shape. We were trucking feed and water again. This year looks a little better but its only skin deep. Hot dry weather and a dry winter can drive us right back.

It isn't just here. Manitoba suffers as well. Brandon and south has much the same problem as we do. Last year, their pastures were as hard hit as ours and on-farm water supplies were low there. According to PFRA, most of that district was reporting inadequate surface water supplies. By early August last year, the Manitoba Water Services Board had received 311 applications to fill farm dugouts. Flows on the Souris were such that very little water reached the Wawanesa area. Usage lower down coupled with losses to evaporation and transpiration seriously cut back Souris water there.

Manitoba is compromised by an International Agreement that lets North Dakota control how much Souris water they get. We aren't. Saskatchewan controls the Souris at source and has an agreement that lets this province keep close to 50 percent. As things now stand, North Dakota is keeping close to 100 percent. Rafferty-Alameda gives us an opportunity to use our 50 percent to great advantage and even has a net quantitative as well as qualitative benefit to Manitoba.

By regulating flow from Rafferty-Alameda, we can assure Manitoba of some more water when they would otherwise be at "zero flow" conditions.

Manitoba's problem is the International Agreement with North Dakota. Their only hope to really improve water quantity and water quality on their stretch of the Souris is to get more water out of the U.S.. That isn't our problem. Rafferty-Alameda is a project to help us - to address problems like the 3000 applications for drought assistance last year in southeastern Saskatchewan; like the 600 dugouts that required 900 miles of temporary pipe; like the Town of Redvers running out of water; like Midale's newly drilled but unusable well; like Estevan and Oxbow rationing water.

We'd like to help Manitoba. We know and sympathise with their troubles. I am certain that their provincial government, in failing to offer constructive support for Rafferty-Alameda, is failing to meet the needs of the farming community in southwestern Manitoba. Fortunately, our provincial government has recognised and is prepared to live to its responsibilities to farmers and communities here. By building Rafferty-Alameda, Saskatchewan will provide sufficient water to irrigate up to 12,000 acres of land and will provide water for the Town of Midale and the Hamlet of Hitchcock. The reservoirs will also provide regional security for other municipal contingencies.

Knowledge of the Souris supports construction of Rafferty-Alameda as the first step in water conservation. It might be argued that if we'd built ours first, and had the water on hand, Manitoba might have got a better deal. Fact is, this is the best break they've had so far.

North Dakota has indicated that the deal stands and won't renegotiate. By building Rafferty-Alameda, we give Manitoba a bench mark for regulated flow. They then can design control structures on their side of the border accordingly. Most of Manitoba's flood problems come from tributaries in their province. Rafferty-Alameda can and should be used by that province as part of a water conservation/resource management strategy for south-western Manitoba.

My hope is that Environment Canada will use its power not only to facilitate the construction of Rafferty-Alameda, but to discipline Manitoba in what is currently a blatant disregard of both water quality and water quantity in the Manitoba portion of the Souris. Manitoba has allowed that portion of the river to become a sewer that serves no useful purpose to anyone.

I encourage your department to see the value of Rafferty-Alameda, as a water storage project of immense importance to us but also as a useful first step in cleaning up the Souris River.

Yours truly,

Robert J Scott

Bob Scott,
Tel. 925-4500

Glen Ewen, Sask.,
July 7, 1989

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I cannot understand how outside a license that was given and construction that was started can be stopped by a handful of people who don't live in the area, who don't even know the area but want to tell the residents what is good for them and what isn't. Since when is it proper to frustrate the will of tens of thousands of people in order to achieve certain political points.

The Initial Environmental Evaluation has been prepared and the public have been asked to respond to it. I am happy that irrigation will result from the Rafferty Alameda Dam Project. Sprinkler irrigation will increase agricultural output by stabilizing delivery of water to croplands.

Irrigation, a main feature of the project, promises to put some 10,000 acres under the sprinklers. This will allow for a more even distribution of moisture throughout the fields. As the Outlook/Lake Diefenbaker area can attest, irrigation was responsible for a complete change in farming in the area. The usual dryland techniques gave way to new, innovative approaches and this in itself is responsible for spawning new companies and new jobs.

Aside from the development of new companies, irrigation allows for the cultivation of a variety of grains, forage, vegetables and specialty crops not possible or feasible with dryland farming.

The I.E.E. views the plan to irrigate as a component of the project. This irrigation proposal simply cannot go through if the dams are not built. It is time to stop bickering and to get on with developing the most needed dams in Saskatchewan.

Yours truly,

Wesley Scott

Wes Scott
Telephone # [illegible]

July 7, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Sask.
S4P 3R4

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CANADA
REGINA, SASK.

I am writing in response to the IEE on the Rafferty-Alameda dam project. The dam projects have been proposed for some seventy years. It is a project that will affect the lives directly and indirectly of people living in the southeastern corner of the province.

It is with this background in mind that I write to you today. The main bone of contention seems to be water flows in the area. The IEE and a handful of vocal opponents comment on how the flows in the basin will be restricted because of the dam projects. Saskatchewan contributes 30% of the water in the basin with North Dakota giving 40% and Manitoba contributing the remaining 30%. Because of agreements in place, Saskatchewan must pass on half of its portion (or about 15% of the total). If we retained the entire amount apportioned to us, we would only have 15% of the total water. North Dakota must do the same. So Manitoba is entitled to its 30% portion (which it doesn't have to share with anyone else) plus the portions of water which had to be passed on from the other two jurisdictions. Is this fair?

It should be noted that while we are legally entitled to retain 50%, it wont happen. The dams are on the Souris River and the Moose Mountain Creek. This leaves all other creeks and rivers like the Pipestone, Gainsborough and the Antler to flow unimpededinto either North Dakota or Manitoba.

It is beneficial to all jurisdictions, including Manitoba, that the retention of flood waters in the spring and allowances for flows be in place. The project will even out the big spring floods and allow for stability. In closing, Saskatchewan has shown, particularly in times of drought, that it needs the water. It is because of this need that I ask you to please let us build the dams and develop the province.

Gerald Sievewright
Gerald Sievewright
Alameda, Sask

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

To Whom It May Concern:

I am writing to ask whether your department is going to do anything in our area if Rafferty-Alameda does not go ahead. We know that the project will contribute to cleaning up the Souris, but no one has said whether Environment Canada will take it on if you do not let Rafferty-Alameda proceed.

Will Environment Canada pay for new habitat after it's wiped out by the next flood? If the federal governemnt won't let the provincial government protect us, will the federal government provide the protection? What is the commitment of federal agencies to water quality, water quantity, animal and plant life if Environment Canada won't let Rafferty-Alameda tackle these issues. This project's mitigation commitments are greater than any other ever made to the area. There is more money dedicated to the environment through Rafferty-Alameda than any other agency has ever pledged. If this project is lost to us, will the federal government do it as quickly or as well?

My view is that we stand to benefit directly from Rafferty-Alameda and that Environment Canada can too. Let this project proceed for all of our sakes. It is very good for those of us who live here and it seems to save Environment Canada a lot of money. If you do not allow Rafferty-Alameda to do the job that needs doing, then Environment Canada have to do it alone.

George Sereggela
1124-4th. Street
Estevan, Saskatchewan

Environment Canada
Regina, Saskatchewan
S4P 3R4

The Souris River is an unusable, unhealthy, unsightly river - when it's a river at all. It cannot by any stretch of the imagination be considered navigable. After runoff in the spring or after heavy rains, there is no current and stagnant water merely evaporates - it is too flat to flow.

I support the Rafferty-Alameda Project because it turns something that is currently of no benefit, that is seasonally a threat to property to advantage.

We need water here when it is dry and there have been floods aplenty to tell us where to get it. Thus far, we have lacked the means. Rafferty-Alameda is water conservation that will lead to managed flow downstream. It represents opportunity to use the Souris and I believe clean it up as well.

No one can convince me or my neighbours that the Souris can get worse. More water, at regulated intervals means cleaner water. It's that simple.

We want to build Rafferty-Alameda, and I've heard nothing at public meetings or elsewhere to suggest that it will do anything but good.

Sincerely,

Peter Sereggela
1124-4th. Street
Estevan, Saskatchewan

July 7, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir:

My reason for writing this brief is to indicate my supprt for the Rafferty Alameda Project. It means a great deal to those of us who make our homes here and who want to encourage others to do so.

Saskatchewan's climate is a harsh one in which to make one's living. In this part of the province, I think that it is particularly difficult. The Souris Rvier, which has brought so much hardship, has the capacity to bring blessings instead. We own the Souris at its source, we have known for years how to tame it to our advantage, yet only now are we about to do so. Finally, we have the resources and the provincial commitment to attack the joint problems of flood and drought.

I know about Manitoba's problems and I sympathize with them. They too are farming flood prone and drught prone areas. Fact is we can fix our problem and contribute to resolving theirs. Manitoba could model their control systems for the Souris more efficiently once Rafferty Alameda is in place. A coordinated scheme, our work and theirs would go a long way toward cleaning up the Souris River.

For people on both sides of the provincial border, Rafferty Alameda will bring important improvements. For those who truly want to see improved water quality and water quantity in the Souris, the solution is more projects following Rafferty-Alameda on the Manitoba side of the border.

I would like Environment Canada to allow the completion of Rafferty Alameda and to direct Manitoba to follow our example. Together, we can have a better, more useful river.

Yours truly,

"Nick Sereggela"
Nick Sereggela
469 Maple Bay
Estevan, Saskatchewan
S4A 2B6
Telephone: 634-3767

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CANADA

BRIEF

TO

ENVIRONMENT CANADA

INLAND WATER DIRECTORATE

BY

R. Alan Shay

Former Mayor of Oxbow for 6 years.

Former Councillor of Oxbow for 18 years.

Former Member of Moose Jaw - Souris River Association

Former Member of Saskatchewan Resources Development Association (S.R.D.A.)

Member of International Good Water Group.

July 6, 1989
OXBOW, Sask
S0C 2B0

Environment Canada
Inland Water Directorate
1901 Victoria Avenue
REGINA, Sask
S4P 3R4

TO THE CHAIRPERSON

This Brief is presented to give my views supporting the Rafferty/Alameda Dam Projects.

Attached is the following data : Press reports, Photos, Letters from Honourable Jeanne Sauve, Minister of Environment Canada 1974, and Honourable Syd Green, Minister of Mines & Resources and Environmental Management Manitoba 1974, Saskatchewa Research Council Water Analysis Oxbow water 1985, letters and briefs written by myself and other data I consider important.

I have been involved since 1969 supporting the importance of proper management of the Souris River Basin.

The Draft Initial Environment Evaluation has raised some concerns of wild life, water quality, fisheries, plant life. Firstly, I'll deal with water fowl.

Ducks and Geese and other water birds need water. The recent period of drought has almost eliminated the water birds reproduction in the Souris Basin. As an example ducks stopped here this spring as an abundant snow fall produced some pot holes with water in them. Some of the ducks nested. It takes four weeks for ducks to hatch and during the period of hatching the pot holes dried up, the young ducks hatched only to die from no water supply. The life expectancy of young ducks without water is 48 hours.

Ducks will not reproduce successfully in a River. Their nests are subject to preditors, mink, weasel, racoon, hawks, crows etc. When they are hatched and drop into the river the northern pike eat the little ones. Ducks will successfully nest and reproduce in swampy shallow waters, if the dams are constructed. The small ravines and upper ends of the lake will be ideal habitats.

In future other flat habitat could be flooded by pumping water from the dam area, therefore increasing nesting habitat.

CBC TV on Julu 5, 1989 aired "The Nautre of Things" dealing with the decline of the duck population. 8 out of 10 ducks hatched and raised on the prairies never make it back the following year. Heavy American hunting arounf refugees, the polluting of water in the winter nesting grounds. Every bird taken due to hunting, three die of wounds and are never recovered. The use of lead shot further reduces the population due to lead poisoning and this is passed on to eagles and animals that live in the marshes, eathing the dead birds.

Building of Rafferty and Alameda Dams WILL NOT decline duck production. The Canadian Wildlife and Environmentalists should direct their attention to the above causes of duck decline. Firstly - hang up the guns for one year, clean up the winter resting refuges. Stop the building of the Dams is not the answer. The more water you have, the greater the

production of water birds.

THE CONTAMINATION OF FISHERIES

Years ago, farmers used a mercury compound to treat cereal grains against plant diseases. The mercury was not soluable in water. The mercury on the seed remained in the soil and eventually was carried into the rivers and creeks and sloughs, and this compound settled into the mud and decaying vegetation on the bottom of the rivers and creeks etc. This element was foreign to the bacteria habitat. The bacteria started to turn the insoluable mercury compound into a soluable compound which was dissolved into the water. Fish passing these waters though their gills absorbed the mercury, thus the fish were mercury contaminated. This has occured in every lake and stream in Western Canada. Mercury treated seed is not used now, and once Rafferty/Alameda Dams are built the water flushed through and diluted, the mercury situation will be corrected. Building the Dams will enhance the quality of water in the Souris. Now we have stagnant pools of polluted water, full of chemical residues from the past, along with animal wastes and sewage. The Rafferty Dam and Shand Power Station will use the sewage from Estevan for cooling, thus the sewage from Estevan will not enter the Souris. This alone is reason enough to build the Dams.

In the near future, I can see the Town of Oxbow with 1200 people drawing its water supply from the Alameda Dam. At the present time our water comes from wells situated approximately 300 feet from the Souris River and its a proven fact the river levels affect our well levels. Our acquifer is being polluted from the river. See Saskatchewan Reasearch Council Report. No wonder cancer and kidney problems are high in our area. For the sake of human life, please grant the licenses to build the dams.

On July 1st weekend, 65,000 to 70,000 people used Moose Mountain Park. The two little lakes are going dry. Where are these people going to go for water recreation? Another solid reason why we need the Dams.

Please don't deny us our right to clean water and water recreation, and grant the license. Any further delays could be disasterous to our area and futher studies will produce little to what has already been written. Please let us proceed with the Dams.

Thank You.

R. Alan Shay

R. Alan Shay.

Box 154,
Alameda, Sask.
July 8, 1989

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I looked over the Initial Environment Evaluation Draft Study on the Rafferty Alameda Dam Project prepared by Environment Canada. This project is important to all of us in the area and I think the dam project should go ahead. One of the reasons to move ahead is because of the fisheries.

The stocking of fish in the area is a good idea and I encourage more of it. The I.E.E. says that the Saskatchewan waters of the Souris River support at least 27 species of fish belonging to eight families. It also says that no endangered fish species occur in the study area. According to the I.E.E. man made barriers to fish movement play an important role in developing the extent of fish movement in the basin. The construction of the dams, however, will provide two large reservoirs which will greatly enhance fish habitat. The loss of riverine habitat that is anticipated to more than fully mitigated by the new lake habitat in Manitoba is poor. So the new developments here in Saskatchewan more than compensate for Manitoba as well.

I want to take my family and go fishing near home. Picture it. One sunny afternoon, driving over to the reservoir to do some fishing and being able to pull in some trout or pike. Sounds good to me. Sounds good to the rest of the people here. Let's go ahead with the dams. Let us build the dams.

Yours sincerely,

Garth Shepherd
Telephone # 487 4504

Susan Shepherd,
Alameda, Sask.,
July 7, 1989.

Environment Canada,
1901 Victoria Avenue,
Regina, Sask.

Dear Sir,

I am writing to explain my feelings about the IEE of the Rafferty-Alameda dam project. The project, as you know, is on hold while we hold discussions on your study. This is why I have decided to submit my brief to you. After reading the draft summary, I am focusing on the area of rare and endangered species which it lists as having significant impact. While any average Canadian recognises the need for the protection of endangered species, the people of the Souris Basin have taken that into account when voicing their support for the dam projects.

The IEE lists a number of animals and plants which it feels will be affected by the dam projects. The one main contradiction of this study in the basic assumption that all habitat of these species will be adversely affected by the project. That is false. For the most part, few if, any rare plants or animals will have their habitat lost because of the dam. For example, the rare birds, include the piping plover and the whooping crane. In fact these birds benefit substantially from the project in that their is increased beach habitat and water. These endangered species which perhaps now owes its existence to the actions of man will be better off with the project being built.

The list of rare and endangered plant species in the area also must of under the same scrutiny. Some of the plants are also on the Manitoba noxious weeds list.

This means they are sprayed by the agricultural community. This is the kind of contradiction that frustrates many of the people in the area.

The dam project involves a very small percentage of the total land area in the Souris basin. The distribution of the plants and animals also needs checking. Most of the plants and animals are found elsewhere in the basin, in the country and in the continent. There is no indication of any one plant or animal solely dependant on the Souris Basin for its survival.

This kind of attitude by Environment Canada can be summed up by the statement in the IEE: "that a plant which is rare in Canada may possess a main range in the United States in which it is in no present danger of extinction has nothing to do with the issue". This is wrong. It has everything to do with the issue. If a plant is not rare, threatened or endangered, it is simply not rare, threatened, or endangered. It does not matter where that plant is found. If that plant is found in abundance in another location, then it is not rare and it should not be considered as such.

The concern for the environment is just. Plants and animals which deserve our special attention, will not be in any way harmed and in fact, some may even prosper because of the dam project. This is why tens of thousands of people believe in the dam project and why it should go ahead. Please allow us to build our dams. Please allow us our stake in the environment.

Thank-You,

Susan Shepherd

Susan Shepherd,
Telephone: 489-4504

To Environment Canada
1901 Victoria Avenue
Regina Sask
S4P 3R4

Kevin E. Smith
Estevan Sask
306 634 5429

Dear Sirs,

I have some concerns about the Rafferty and Alameda projects. I request that my letter be submitted for a brief on this project. Thank you.

How can I have confidence in Environment Canada or its "scientists" when they can not spell? Failing that, how thorough can they be when they let a letter of supreme importance, i.e. Bev Burns, covering note, first page, Draft Initial Environmental Evaluation, proceed to publication without correcting that error. (Second paragraph, fourth line, "lead" should be "led").

The Souris Basin Development Authority spent years in the design and development of the Rafferty Alameda project. Environment Canada knocked together their evaluation in a couple of months. Their haste and carelessness shows.

Rafferty Alameda is the product of countless manhours of effort and analysis. Environment Canada's effort is lame, halting, inefficient and ineffective. There is far more critical judgement aplied in the work prepared by the Authority than in that provided to the public by Environment Canada.

I have confidence in Rafferty Alameda. I want to see it built this year. It appears to me that we are much better served by the authority's insight into environmental issues, than yours. They did good careful work. Environment Canada did not.

Kevin E. Smith

"Kevin E. Smith"

We farm in the Oxbow Area and are very concerned about water and wildlife conservation and management.

We have heard the sad stories of the "dirty thirties" from our parents and grandparents and have ourselves experienced the drought in 1961 and now the drought of the '80's.

During the thirties, cattle had to be taken into northern Manitoba for feed and water. There was no place to haul or pump water from.

After that dreadful experience, Grandfather built a reservoir on the home place and had a dam built on the pasture land in 1949. This dam is small compared to the Rafferty-Alameda project, but is still a dam, holding Lake Ben William for two miles. It is fed by the Antler Creek. This lake provides water for many cattle and fills many dugouts for farmers' domestic and agricultural use. If necessary it could irrigate many acres of hayland.

This lake also provides a home for thousands of geese and ducks every year, as well as pelicans, swans, beaver, and mink. The deer abound.

Because of this experience we feel that the Rafferty-Alameda Dams must be built. We must have a reliable source of water. When dugouts and wells go dry, which they will, there would be a place to haul or pump from, as well as supplying wildlife with water, and a beautiful lake for all of us to enjoy.

Submitted by

Box 567
Oxbow, Sask.,
S0C 2B0

Presentation by G. Swallow
In response to Environment Canada's
Initial Environmental Evaluation of the
Rafferty Alameda Project

JUL 1989
REC[illegible]D
ENVIRONMENT
CANADA

Glenn Swallow
Box 203
Alameda, Sask.
S0C 0A0
Tel. 1-306-489-2057

In this brief I will respond to Environment Canada's call for public input and recommendations in respect to the proposed Rafferty-Alameda dams project on the Souris River in southeastern Saskatchewan. I agree with many of your findings and I share your concerns.

My first concern is with process. People were kept in the dark from the very beginning. From the time the E I S was made public, until the Board of Inquiry began conduc ting hearings, was less than one month. Access to the study was restricted to municipal office hours as the study could not leave the building. For farmers in their busy season and working people, there was little time to study an 1800 page E I S. The S B D A claims that public consultation was a top priority. They base this claim on the fact that hundreds of meetings were held with the public and with land owners to inform them about the project. And that is exactly what they did. They told them about the project. That is their definition of consultation. At no time did the S B D A ever hold a meeting for the specific purpose of asking people what they thought. Benefits were and continue to be over stated and deficiencies are ignored or the statement we continue to hear is that they can be mitigated. There is a hell of a difference between can and will. When the dams are built S B D A will be dissolved and there will be no agency to go to. Sask. Power's record, regarding helping people solve their problems, and with mitigation, has been less than glowing with success. S B D A continues to overstate the potential of the project. Mr. Hood recently stated on several occasions that these dams half full with no run off could supply irrigation water for three years and cool Shand for ten years. If they are so wonderful half full, we should build them half the size because they will be half full, or less, most of the time.

The licence should not have been granted, nor should it ever be granted, conditional on compliance with certain requirements attached to the licence, unless an independent scientifically creditable board or panel is set up at the same time to monitor the proponents compliance with the requirements. It is ludicrous to allow proponents to police themselves just as it is ludicrous to allow the proponents of any project to conduct an E I S. What would you expect the proponents to discover considering their profit or livlihood depends on the project going ahead? When was the last time a proponent conducted an E I S showing a megaproject to be unviable?

Section 2-4 of your draft states that public meetings were held by the Board of Inquiry, in Carlyle, Oxbow, Weyburn, Estevan and Regina. What happened to the public meeting held in Alameda that same December? Has it been stricken from the record because of the overwhelming negative response to the project?

The fact that the site of the Alameda Dam had not even been determined at the the time the E I S was done and at the time the public hearings, being conducted by the Board of Inquiry, were underway, is an accurate indication of how concise and comprehensive the E I S actually was.

The proponent has no responsibility once the dams are built. Any mitigation not completed at that time is not likely to be completed. Land use questions will not be settled to anyone's satisfaction. We will have the farmers, wildlife people, and recreational people all wanting the same land for different purposes. The community of Alameda will be divided and totally destroyed before these questions are settled. Neighbor will be turned against neighbor to the point that cooperation necessary for a vibrant community will be non-existent.

The agricultural land taken out of production will have a direct effect on the Town of Alameda in general and the Alameda Auction Mart in particular. Both will have their viability reduced.

All deficiencies noted in your I E E should be further studied and evaluated before the licence is reissued. If conditions are placed upon the reissuing of the licence, a group other than S B D A, must be established to ensure that the guidelines have been followed. It is critical that mitigation for waterfowl take place before the dams begin to fill.

Another concern is that no alternative water management and flood control plan was ever presented. S B D A claims they were studied but all of the so called public consultation that took place never were the people asked to choose between two proposals. The powers that be made the decision on our behalf and we are supposed to appreciate it. Also, to this point, no American money has been forthcoming. If the Americans want flood control, they should flood their own land.

My other major concerns centre around water management and water quality. Based on information in the I E E, it would seem that water from the Rafferty Reservoir will be of extremely poor quality. The only reason I can find for building the Alameda Dam is so that we can use the water from it to dilute the material that will be released from the Rafferty Reservoir. The high level outlet proposed for the Alameda Dam tells me that the water at the lower levels of the Alameda Dam may not be too pure either; especially after several years of draining the cleaner water off the top and allowing the pollutants to settle to the bottom. How concentrated will the pesticides become in a situation like this?

I would also like to point out that flooding of the Souris River in the last 20 years has been due mainly to illegal drainage. It has not been a case of an abundance of water.

Another example of S B D A 's exaggeration of project benefits can be seen in connection with irrigation. I am sure that you are well aware that we live in a bone dry dust bowl corner of the province. To listen to the proponents of this project, the irrigation potential of these two dams will solve that problem. We have an irrigation potential of 4800 H. Does anyone realize that that represents a grand total of less than 20 sections of land? That is an extremely small portion of the bone dry dust bowl in my opinion.

This brings me to my last concern, water quantity at the Alameda Dam in particular. During the fill time there will be no releases from the Rafferty Dam unless absolutely necessary. Studies show that had that dam been built in 1912 it would not have filled until 1955 and that is the only year in which it would have been full. What if it takes 100 years to fill the Rafferty Dam? That means that apportionment to the U.S. must come from the Alameda Dam for 100 years. The dam won't have much of a recreational value. Instead of stripping the Moose Creek Valley of vegetation and have it subjected to needless erosion, why don't we forget the dam on Moose Creek and let the U.S. apportionment flow south in the spring as it now does, that way we save the valley and we do not have to be responsible for evaporation. The Alameda Dam is totally senseless. It will never be needed until the Rafferty Dam fills so let's wait until that happens before we worry about constructing it. To hell with storing water for the U.S.

I think it is also useful to point out that Saskatchewan must absorb the evaporation loss on water that does not even belong to them. It is U.S. water until it evaporates, then it becomes our property. In extremely dry years, 10% or more of the existing water could evaporate. In every year evaporation is greater than precipitation. About 65% of our precipitation falls from May to Sept. and there is no run off from it, so there is no chance of raising the level of the reservoirs through precipitation. I all depends on snow pack unless we begin water diversion from other river systems. Snowpack in southeast Saskatchewan is a very insecure source of water. The licensed allocation for evaporation is only 35% of what the actual estimated evaporation will be. That seems like another convenient oversight.

Boundry Dam generating station has been added to many times over the years. How much additional cooling water will be needed if Shand is added to?

Lastly, I point out that flooding will only be controlled; it will not be eliminated. It will be less severe but more prolonged than in the past.

My final recommendation is that a comprehensive basin wide E I S be done by a scientifically creditable and unbiased group of experts. If they should recommend the project go ahead as it is currently proposed, I would give it my support. We hear people complaining of lost time and increased costs. Better to take the time and spend the money now than to create a boondoggle that we will be burdened with for hundreds of years. All mitigation should be spelled out in advance and S B D A should be responsible to see that it is completed.

Thank you for your attention.

Glenn Swallow

Glenn Swallow

Presentation by J. Swallow
In response to Environment Canada's
Initial Environmental Evaluation of the
Rafferty Alameda Project

Judy Swallow
Box 203,
Alameda, Sask.
S0C 0A0
Tel 1-306-489-2057

My name is Judy Swallow. I am an artist living in Alameda Saskatchewan. I am writing in response to the Initial Environmental Evaluation to list my deep concerns about the proposed Rafferty and Alameda dams.

My concerns are many and varied. I will speak mainly about rare and endangered plant and animal species, but I will begin in my own area of Alameda. In the I.E.E. (Initial Environmental Evaluation) page 11 of the summary, it states quote "Site specific environmental impacts for the Alameda dam are not available since the dam site was moved after completion of the Saskatchewan E I S (1987) However, from a federal point of view, the regional and national impacts would not be significantly different from those identified for the original site location." end quote. I feel very strongly that the impacts were not clearly identified and were incomplete in the E I S (1987) for Alameda. I feel there was lack of information, scarcity of research, low assessment information, uncompleted baseline studies and lack of surveys done. I will be quoting from the E I S to substantiate these feelings I am quoting from Ch. 10 "Natural Vegetation" in this section P-5-6, discussing flora...Rare and Endangered Species, I quote "Rare or endangered plant species had not been previously reported for the proposed Alameda Reservoir Area. Additional field surveys were needed to determine if any such species occur in this area. end quote. Impacts here are not identified in my opinion. P-14 discusses American Elms and I quote "It's presence in the Alameda Reservoir area has not been established" end quote. Also on P-14, I quote,"The wooded coulee areas are probably composed of stunted trembling aspen." end quote. I find that the use of words like "probably" suggest to me guess work not serious study. Again in Natural Vegetation Ch. 10, P-2 discussing flora and I quote,"Alameda: Field surveys were not carried out in the Alameda Reservoir area or along the Souris River downstream from the Shand site to the U.S. border." end quote. I feel that there are just too many areas that have not been studied at all with respect to the Alameda reservoir as well as many other affected areas that need further study as well as clearly defined mitigative process, how these processes will be carried out and who will oversee these steps.

I also feel very concerned and worried about the fact that Canada has no mandate for protection of rare and endangered species. At the rate that rare and endangered species of birds and mammals are listed today I feel it imperative that there are firm ground rules of protection in place. Too often concerns of protection get shuffled between government bodies even with well intentioned cooperation. We need direct action as well as cooperation and words.

The fact that there are five significant plant species recorded in this area should awaken concern. No mitigation is possible for impacts on rare plants in inundated areas. No mitigation measures are identified for rare and endangered species impacted by altered downstream flows. Any uncertainty existing with respect to extent of impacts on rare and endangered species concerns me deeply. It is our responsibility as citizens of this world to do something before it is too late to. Rare plant species within the Souris River valley in North Dakota have not even been identified. These are only a few deficiencies noted!

Other deficiencies can be found in Ch. 16 Heritage Resources again in E I S. The reason I will be quoting from these is to further emphasis the facts that there is too much inconclusive study done in Alameda,period. alternate site or proposed site. P-29 Provincial Inventory Search discussing recorded sites says that due to paucity of research with the project area, only 5 resources are listed in the Provincial Site Inventory . It goes on to describe these sites as maybe, possibly, either, or. Very inconclusive statements to describe research. P-32, discussing artifacts in Alameda area, I quote,"However the level of assessment completed at these sites was quite minimal." end quote. It did not say these surveys would be done or any future plans were underway for confirmation of these predictions. On P-16 quote, "Alameda Reservoir Resources; at present, the level of assessment information on Alameda Reservoir resources is quite low." end quote. In my opinion, statements like that tell me that impacts and information is lacking. Another alarming statement of inconclusiveness, P-19 section 2 Alameda Reservoir; the Alameda Reservoir was not surveyed in 1984 and only briefly in 1985. P-41 title Environmental effects on Alameda Reservoir 1: Construction; As baseline studies have not been completed for this project component, resource specific impacts can not be identified at this stage. This is again mentioned on P-44 mitagative measures under heading of Construction. If the impacts can not be identified because of incompleted studies, I feel it is hasty and premature to make a decision that impacts would not be significantly different from those identified for the original site location. Let me just state again that I have only chosen a few examples to emphasis lack of study in Alameda area.

In summary report in Wildlife Section P 21, it states that implications to wildlife are quite diverse and in some cases not fully understood. P-50 discussing major implications for wildlife, I quote,"The lack of detailed knowledge of ecology and current population levels of these species has made it impossible to precisely quantify the significance of the projected acreages of lost habitat." end quote. P-87 Historical upland game bird data for the Moose Mountain Creek corridor does not exist. At the time of releasement of the E. I. S. document to the public a large number of studies were not conducted or completed. Very little, if any impact study done on water quality in Manitoba. How can one decide the adverse effects on plant and animal, let alone human species if these studies are not complete. I am also deeply concerned and worried about whether the mitagative measures that are listed will actually be carried out. We have had alot of lip service in the past. I am concerned about who will fulfill the mandate of these mitagative measures once groups that are supposed to be responsible like S B D A. disband? What then? The words we hear are... it can be migatated, we have not heard that....it will be migatated.

The fact that data on the threatened ferruginous hawk and quantitative baseline data on the threatened Baird's Sparrow is lacking is another cause for concern. As well as the fact that it is expected that much of the shorelines of Rafferty and Alameda will not be suitable for development of necessary aquatic vegetation for brood rearing of the duck population is also of concern. More information is required concerning such threatened species as Baird's Sparrow and the Ferruginous hawk and Burrowing Owl.

There has been no alternatives to these proposed dam projects listed by the S.B.D.A. I feel this project has been pushed through by the governing body in charge, studies done by proponents of the project. There are too many areas of concern, too much lack of information, provincially as well as impact from Sask. to U.S. to Manitoba,on Manitoba, too much destruction of precious habitat, rare and endangered species and their habitat.

I strongly urge that the Federal Environment Minister call for an independent scientific ally creditable Environmental Impact Study on all areas affected including Saskatchewan, North Dakota and Manitoba by an unbiased body. I would also urge that other forms and methods of water control and management be looked at that would work more in harmony and cooperation with nature, we must work with it. Once ecosystems are destroyed they cannot be replaced. You cannot recreate natural beauty, experiences and discoveries found in nature. Instead of constantly managing the environment, managing animals, maybe we need to manage people and work in harmony with nature. I will end by quoting Rose Bird, Chief Justice of California Supreme Court ..."We have probed the earth, excavated it, ripped things from it, buried things in it, chopped down its trees, levelled its hills, muddied its waters and dirtied its air. That does not fit my definition of a good tenant. If we were here on a month-to-month basis we would have been evicted long ago." Thank you for the opportunity to address some of my deep concerns about these projects.

Sincerely,
Judy Swallow
Judy Swallow

ENVIRONMENT CANADA
1901 Victoria Ave
Regina, Sask
S4P 3R4

My name is Robert G. Sweeney , I reside at 410 Spruce Drive, Estevan, Sask
Phone number 306 634-1105

My occupation is a Petroleum consultant and have lived in the city of Estevan for 27 years.

Listed below are my concerns why we should immediately get the Rafferty and Alameda Dams back on construction.

I have seen what floods have done to the property owners in the vallies in Canada and U.S.A. Estevan, Oxbow & Minot have faced thousands of dollars in flood relief. I have seen many dead fish in pot holes in the valley after the flood waters have receded leaving them in shallow water. I have seen fish die in the winter at the small dam south of Midale, Sask because of shallow water freezing to the ground.

If Rafferty dam was in place this would take care of the problem.

I will list recreation as another reason why these two dams should be built. We can consider the potential resort facilities that could be in place for future generations and enhance wildlife preservation at the same time.

I have never seen an abundance of wild life where there is no water.

I can also see water filtration plants to supply water to the towns of Midale, Macoun & Hitchcock also the city of Estevan.

Industry will most certainly grow in these towns due to abundant water.

The Shand Power Plant will benefit by water.

Oxbow, Alameda, Redvers & Alida in supply of water from Alameda Dam.

Agricultural end of it will be enhanced immensely for irrigation purposes.

As a Conservationist I feel these two bodies of water will be nothing but good for both wild life & humans in future generations.

Robert G. Sweeney

Environment Canada
1901 Victoria Avenue
Regina, Sask.
S4P 3R4

Dear Sir/Madame:

I am a longtime supporter of the Rafferty-Alameda Project and have followed closely the tangled process which government has applied in getting the project underway. For fifty or more years, we have gone from "build a dam" to "can't build a dam" but this is the first time anybody has come right out and stopped us after we have started to build it.

It's unbelievable to me that we can come as far as we have only to have the licence revoked and be told that it's illegal to proceed further.

Needless to say, my commitment to the project led me to request a copy of your draft Initial Environmental Evaluation. I have read the draft summary with care. I also attended the public meetings in my area. It was disappointing to me to see how little attention our unanimous support for the project received. When you revoked the licence, you got national coverage. When we who live here demonstrate our support, we don't get a mention on the back page. My hope is that your officials will make sure you know how badly we want Rafferty-Alameda to proceed. We need the protection that water conservation provides and we need the jobs that will occur in our area as a result of the project. This brings me to the point I want to make in writing to you. On page three of your draft summary, you refer to the British North America Act. You offer the definition of provincial responsibilities within which the British North America Act "gives the provinces control over property and civil rights".

From what I read in your document, Environment Canada could string this out for a long time. The longer that goes on, the longer I and my neighbours must forfeit our right to protection which the British North America Act promises us.

To have a lifetime's effort hinge on whether we can convince you of our need for the project, when we have already convinced the provincial government and federal PFRA, is very hard to accept. Also, if the licence is granted this time, if it's reissued, does it come with a promise that this time you really mean it? How do we know we can trust it? How do we know we can trust you?

Contractors are on 7-day notice to come back, they can't take on other work so the people laid off here, stay laid off. People moved here for jobs, some of them borrowed money - they still have to pay their bills, but their jobs are gone.

If Environment Canada has a position on what we are trying to do, then as a taxpayer, as a purchaser of that agency's service, I require that position to be one that facilitates - not impedes. If a problem is identified by your experts, then I require that they provide a workable solution at the same time. If you can't give us help, then don't just give us bother.

Further, this is an expensive project. We want to keep the costs down because we are the ones paying for it. If the federal government has a shopping list of what they want to add to our project, then I want them to add their money into it with contributions from Canada as a whole, not just add to the costs borne by Saskatchewan and North Dakota residents.

This project can stand on its own. It contains some of the best work of its kind, a lot of community input, and some of the most forward thinking mitigation proposals ever implemented. I think we should have had more credit than we have been given - and not had our licence revoked.

Sincerely,

Dean Tenold

Dean Tenold
Box 726
Estevan, Saskatchewan
S4A 2A6
Tel. 634-2333

Shand Farms Ltd.
G. Tenold & Sons
P.O. Box 726
Estevan, Sask. S4A 2A6

Rafferty, Alameda dam evaluation

My name is Gordon Tenold, my interest is perhaps personal but because of my background, I think very logical. I lived in Torquay from 1930 to 1945 (15 miles from the Souris) - except for 5 years at College and University that was the farthest I have lived from the Souris river. I lived on a farm east of ESTEVAN until two years ago, 2 miles from the river and farmed and ranched in the valley. The last two years I have lived in a diked area 50 yds from the Souris river (south of ESTEVAN).

My concerns are with the booms and busts of the unpredicable Souris. I have seen the uncontrollable floods of the 40s, 60s and 70s - calves swept away, my partners house and our cattle facilities devastated by floods, farm land covered with silt and trees and other debris taking years to get back in production; and on the other hand the lack of water in the 80s where the only flow is ESTEVAN's lagoon effluent that kills plants and fish (only thing left are a few bullheads). Here is the logic - wouldn't it make sense to hold back flood waters in flood years and have some water to flush out the system in dry years. It would be better for wildlife, plants and especially people

I am sure you are aware that anything negative comes from people (special interest groups or individuals) from out of the area. The hearings in ESTEVAN had one negative brief - from Saskatoon

I make no comments on the Alameda dam, because I don't fee qualified, having never lived in the valley or in that area.

So many statements made by outsiders makes you realize they have no conception of the area - or perhaps even know which way the river runs.

Example - Wildlife in Moose Jaw - deer moved into the area in the late 1800s - there was not a deer in the valley west of ESTEVAN until 1947.

Individual from Saskatoon - It will drain the Maxim and Neptune marshes. Fact - that is the headwaters of LONG CREEK that was dammed in 1957. (After two hours of hearings). It has proved to be environmental sound and is the reason the City of ESTEVAN has water and Boundary dam can produce 50% of the provinces power.

I will not bore you any more as I am sure you are briefed to death - but I am one more that believe sincerely in the feasibility of this project - economically, environmentall, etc.

Yours truly,
"G. Tenold"

Thompson, Dorfman, Sweatman

(204)934-2578

July 6, 1989

Federal Task Force,
c/o Environment Canada,
Inland Waters Directorate,
1901 Victoria Avenue,
Regina, Saskatchewan.
S4P 3R4

Dear Sirs:

Re: Rafferty/Alameda

I enclose a brief filed on behalf of Ed and Harold Tetzlaff.

W. Scarth, Q.C.
/m
Encl.

RECEIVED

THE SALE OF THE MOOSE MOUNTAIN CREEK VALLEY

I Has the process been fair to Canadian citizens?

II Is the Alameda dam good policy for Canada?

III Is the Alameda dam a sustainable development?

IV Does the law protect the Valley farmers against a sellout of their land?

Before addressing these questions, let's get the ground rules of the issue straight:

1. The citizens of Minot, North Dakota, need protection for their homes and businesses against flooding by the Souris river.

2. The appropriate levels of government in the United States attempted to solve the Minot flooding problem by proposing construction of the Burlington Dam upstream of Minot, south of the Canadian border.

3. The farmers of North Dakota did not want their land taken from them for the Burlington Dam Reservoir. They were well organised. They were supported by many of their fellow citizens. They were able to defeat the Burlington Dam proposal.

4. These farmers were right. Farmland is not a commodity like an urban lot. River valley land is irreplaceable. For many farmers, the land is their family heritage. It is, in essence, their life. The North Dakota farmers were right to say to their government: "Find some other solution for the city people in Minot."

5. And government in the United States was right in backing off, because river valley land is irreplaceable. And they were right in looking north, upstream, to see if they could buy flood protection in Canada. And they were right in offering to pay $41 million U.S. to finance the Saskatchewan government to buy out Canadian farmers and flood their river valley land. This is a cheap price to pay to preserve United States land. The responsibility of government in the United States is to get the best deal for United States citizens. That's what the United States government is trying to do.

6. The Rafferty dam is not the subject here. One of its proposed benefits is the cooling of a thermal generating station. Because of this, the Rafferty dam may have a positive cost/benefit ratio, and it may be a sustainable development. Farmers in the Moose Mountain Creek Valley have no knowledge of this. The Rafferty dam is 85 kilometers away from their Valley. Their concern is the proposed Alameda dam, which would flood their Valley.

7. The real purpose of the proposed Alameda dam is flood protection for United States citizens in Minot. That is why the government in the United States is paying money to buy out Canadian farmers and build the dam. The other reasons for the Alameda dam — recreation and irrigation — cannot be taken seriously.

8. Given the rise and fall of water levels during the reservoir-filling regime, demonstrated by the proponents' own models, the sides of the Valley will be nothing but muddy slopes for a period which may extend, according to the models, for over 40 years. And if our climate warms and dries, as world experts now predict, this period may be even more prolonged.

9. This picture sketched out by the models shows water level changes of 30 feet over periods of a few years, and water levels rising and falling ten or twenty feet in a year, exposing sloping banks of mud. This suggests that claims for the recreational use of the Alameda reservoir either have not been well thought out, or have not been fairly presented. During the lifetime of the farmers whose land would be expropriated, the sight of these mud slopes would be a constant reminder of their lost pasturage. And for any cottagers persuaded to build on the heights above, these mud slopes below them would be a cruel joke.

10. There are doubts whether irrigation is practicable agronomically, given the intense evaporation and the resultant accumulation of salts in the reservoir, and the fragile soils in the area. Even if irrigation were possible, responsible witnesses have calculated that far more acres of productive pasturage would be flooded than would ever be irrigated.

11. So we get back to the bottom line. The United States is offering to buy the Valley to provide flood control for its citizens in Minot. Should we sell? Should government in Canada act as the agent of the United States government to expropriate Canadian farmland ' for United States purposes?

On this background:

I **Has the process been fair to Canadian citizens?**

1. Farmers in the Valley are in a poor bargaining position. They know that, long term, the Valley land is valuable because it retains soil moisture when the surrounding land in the flats above the Valley dries out. This has often happened in the past, and may happen increasingly often in the future. They know too that the Valley is the only dependable livestock pasturage in the Alameda area. But in the short term, in the current farm depression, farmers are under pressure. Land prices offered by government, a little above the current depressed market, are attractive.

2. The towns and municipal governments in the area are also in a poor bargaining position. They know in Alameda that the Livestock Auction Market and the business it brings to town is to a great extent dependent on livestock pastured in the Valley. The Auction Market may not survive without the Valley livestock. But in the short term, Alameda and neighboring Oxbow, and the local municipalities, are all short of money for essential services. The millions of dollars for dam construction, and the short term business which it brings, are attractive.

3. Knowing these vulnerabilities, is it fair for a government to take United States dollars to buy out its own people?

4. The justifiable expectation of the governed is that government will act in their best long term interest. In paying for the Valley, governments in the United States are fulfilling this mandate. In recommending the Alameda dam to its people, and using the United States money to buy out its own farmers, is the Saskatchewan government fulfilling its mandate? Or is it, in the name of development, taking advantage of the fact that its farmers are more vulnerable and less organized than their United States counterparts?

5. Canadian citizens should take a hard look at the process in Saskatchewan which led to the Order by the Saskatchewan Minister of the Environment licencing the construction of the Alameda dam.

6. **Was this process fair?**

(1) A "Souris Basin Development Authority" was created by the Saskatchewan government to plan and promote the project. This Authority then prepared an Environmental Impact Statement.

(2) The site of the proposed Alameda dam, which was the subject of the Environmental Impact Statement, was changed after the Statement was produced. The site of the dam was moved 10 kilometers downstream. Information on the new site was not given in the Statement.

(3) A Saskatchewan government agency called the Saskatchewan Water Corporation was designated as a proponent of the project. The Chairman of this proponent Corporation was the Saskatchewan Environment Minister.

(4) The Saskatchewan Environment Minister, in his other role as Minister, was the licencing authority for the project, with a duty to judge the adequacy of the Environmental Impact Assessment and to decide whether the project should be allowed to proceed.

(5) A Board of Inquiry was appointed by the Saskatchewan Minister to review the proposal, but not under guidelines such as are stipulated in the Canadian Environmental Assessment and Review Process Order, which requires that members of the Panel shall

> "(a) be unbiased and free of any potential conflict of interest relative to the proposal under review,
> (b) be free of any political influence; and
> (c) have special knowledge and experience relevant to the anticipated technical, environmental and social effects of the proposal under review."

(6) The terms of reference of the Board of Inquiry did not permit consideration of a whole range of significant effects of the project, including the downstream effects.

(7) More important, the Board of Inquiry refused to consider the alternative of rejecting the United States money and letting the United States provide Minot flood protection. It is worth recording the Board's exact words:

> "The second alternative the Board was asked to consider involved forgoing the American funding and not provide flood protection for Minot. This could mean building the Rafferty Dam but not the Alameda Dam..."

But the Board simply excluded consideration of this alternative:

> "At no time has the Board considered the merits of developing Rafferty exclusive of Alameda."

7. In the Saskatchewan process described, the farmers in the Valley were never given a fair opportunity, in an open forum, before a Panel with appropriate terms of reference, to challenge the assessment of the Alameda dam and to put forward alternatives to losing their land and their Valley.

8. Instead they were forced, at their own cost, to attempt to stop the process by legal action. After a series of court procedures in the Saskatchewan courts, the process was finally arrested by intervention of the Federal Court of Canada, which held that the federal process under the EARP Guidelines Order must be followed.

9. The basis for declaring the EARP Guidelines to be applicable is that there is federal decision-making involved and areas of federal jurisdiction affected. But once the Guidelines are declared applicable, there is no limit on the scope of the terms of reference of a Panel appointed under the Guidelines. This, at last, is the opportunity for the farmers in the Valley to be given a full and fair hearing.

II Is the Alameda dam good policy for Canada?

1. Is it good policy to destroy a renewable, sustainable, irreplaceable resource like the Valley for a cash payment?

2. Is it good policy to destroy such a Valley for an urban purpose such as flood protection — whoever the city people may be, and whether they are in Canada or in the United States?

3. The North Dakota farmers at Burlington think it is bad policy to destroy valley farmland for this purpose. Are they wrong?

4. Does bad policy become good policy when fewer farmers are affected, or the farmers are unorganized, or the farmers are in a depressed market and vulnerable to a buy-out proposal?

5. Isn't it time we reviewed the big dam policy which has dominated engineering thinking? Big dams may be good for hydro-electric generation, but are they good for conservation of water? Can we afford the tremendous loss by evaporation which is predicted by the proponents' models?

6. Would a series of smaller catchment units, deep in the Valley, sheltered from full-day sun and from wind, significantly reduce evaportion loss, and not only save the Valley land but provide a source of stock water? Might this, in concert with like catchments downstream, achieve the end result of conservation and flood control?

7. These alternatives should be proposed by farmers and assessed by an independent Panel with a generation perspective. Engineers, by training and experience, favor the macro solutions, the 150-foot dams and the flooded valleys. Farmers who live on and with the land favor on-farm projects which, with assistance, they can construct, and which they can manage. If it is considered that this alternative is not practicable, we need only look at the Deerwood project in Manitoba, where farmers on a watershed have successfully done this very thing.

8. A Panel appointed under the EARP Guidelines will give us all an opportunity to take another look at the policy behind the Alameda dam proposal.

III Is the Alameda dam a Sustainable Development?

1. A sustainable development, to paraphrase Prime Minister Brundtland and her World Commission, is one which serves the needs of this generation without denying the use of a resource to future generations.

2. The development of the Valley for a livestock industry is proven sustainable. Millions of dollars worth of cattle have been produced in the Valley since settlement times, but the resource has been passed from generation to generation unchanged and undegraded.

3. Is the proposed Alameda dam sustainable? For this generation it will produce a short term payout in United States money, which in turn will produce short term jobs. Long term, what are we leaving for future generations?

4. The proponents' models of the reservoir-filling regimes say that if the Alameda dam had been built in 1912, given the obligations to provide water to the United States under the 1959 IJC Agreement and for other uses assumed by the modellers, the Valley would not have been fully filled with water until 1955, 43 years later.

5. This 43-year filling period is presented, inferentially, as a worst case extrapolation of historical data. But sustainability assessment is, by definition, forward looking. And to look forward is to anticipate change.

6. And change is what is predicted. The consensus among world experts on the climate change being caused by the Greenhouse Effect can no longer be ignored. The proponents of the Alameda dam have an obligation to present models which reflect the most current scientific thinking.

7. The weight of scientific evidence is:

   (1) The world climate will warm significantly over the next 50 years

   (2) This warming will be more pronounced inland, in the Great Plains of North America.

   (3) Increased precipitation will be more than offset by evaporation, so the area will be drier.

8. This consensus is new. It is authoritative, balanced and practical. Because there is a tendency on the part of policymakers to dismiss predictions which are

inconsistent with their own experience and disruptive of their planning, it is worthwhile to quote a leading researcher at the NASA Goddard Center, Dr. David Rind, writing in the January/February 1989 issue of the United States Environmental Protection Agency Journal. He is dealing in practicalities:

> "We may start experiencing the effects of a changing climate fairly soon. If we define a 'hot' summer as the warmest one-third of the summers during the period 1950-1980, then, if the models are correct, during the 1990's we will experience 'hot' summers twice as often, or two-thirds of the time. The summer of 1988 may be an all-too-tangible indication of how dire such changes in summertime climate can be."

And of direct relevance to the Alameda dam modelling process:

> "The consequences of the climate change that is currently being estimated would be enormous. With that in mind, it is worthwhile for us to factor climatic change into decision-making processes related to our future, even though there are many uncertainties that still exist in our understanding of what may actually happen."

9. Is a big dam like the Alameda, backing up a large body of water exposed to sun and wind and available to rapid evaporation, a sustainable use of a diminishing water resource?

   If the Goddard Climate Change Model is Yactored into the proponents' Reservoir-Filling Model for the Alameda dam, what prediction results? Will the 43-year filling period be extended as temperatures increase, ice-free periods lengthen and evaporation increases?

   In practical fact, will the reservoir ever fill, or stay filled, under the conditions which the current world climate models predict?

10. All of this argues for a genuine look at alternative measures for water retention and conservation by an independent Panel which has no policy imperative. For the Valley, the Deerwood system above described, with a series of smaller valley bottom catchments, may well be the sustainable solution.

11. Perhaps this, with a modified Burlington Dam, would avoid selling out and destroying the Valley, decrease the land taken for Burlington and provide the urban citizens of Minot with their flood protection.

12. In any event, the Alameda dam, as proposed, is an unacceptable, unsustainable use of an irreplaceable resource. The probability is that it would never function other than as a containment for increasingly infrequent floods. In the years between, the Valley would be a useless muddy monument to short term thinking. This is bad policy.

IV Does the law protect the Valley farmers against a sellout of their land?

1. Saskatchewan farmers outside the Valley, and Manitoba farmers downstream, should think hard about the proposition that a Canadian farmer's land and livelihood can be sold out for urban flood protection in United States.

2. If there is no legal protection for these Canadian farmers, then no other Canadian farmer's land is safe against being dealt away for money.

3. The North Dakota farmers upstream of Minot at Burlington have already thought hard about dealing their land away for urban flood protection. They rejected it, even when the city people to be protected were their fellow citizens.

4. Those North Dakota farmers were sufficiently protected by the United States legal system to enable them to fight and win their battle against the Burlington dam.

5. It is not appropriate to comment on the cases which are now before the Courts in Canada. It is, however, permissible, and useful in this context, to make a general comment on the development of Canadian law.

6. The Canadian Charter of Rights and Freedoms is less than ten years old. The comparable United States law, on the other hand, has a long history. United States citizens have had time to become knowledgeable about their rights, and by tradition they are quick to exercise them. In Canada, the courts have hardly begun to define what the Charter means, and our citizens are still discovering their rights.

7. Recent cases in Canada say that "liberty", within the meaning of our Charter of Rights and Freedoms, gives us the right to choose our occupation and to choose where we pursue it. The parents or grandparents of many Canadian farmers left their homelands because this liberty was denied them.

8. The cases also say that our government may, by administrative process, limit or deprive us of this liberty in order to meet the "needs of society". But the process must be fair, and must not violate the principles of fundamental justice.

9. The Canadian courts have not dealt with the case of a Canadian farmer whose livelihood depends on land which has no counterpart nearby. To take away this land is to take away the farmer's means of making a living in the place in Canada which the farmer has chosen. Does our Charter protect this farmer's liberty?

10. This much seems certain. If the Canadian Charter of Rights and Freedoms does apply to the forced sale of a Canadian farmer's land in the Valley, and does give that farmer the protection of principles of fundamental justice, then the Saskatchewan process which has led to the licencing of the Alameda dam does not measure up to those principles.

11. This is our opportunity to prove that we have a legal system in Canada which gives a Canadian farmer protection equal to that which farmers have in the United States.

This brief is submitted on behalf of Ed and Harold Tetzlaff, whose parents settled at Alameda. Ed and Harold have carried on the family livestock operation in the Moose Mountain Creek Valley for 40 years.

June 30, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Jake Walliser
1337-3rd. Street
Estevan, Saskatchewan
634 3984

We, near the Souris in Saskatchewan, have spent a lifetime struggling with that creek/stream/river. Any good that's been done, has been done here, not in Manitoba. I am very unhappy that views in Manitoba may be allowed to influence decisions here. While we have made an effort to clean up the river, they continue to pour sewage into it.

Now we want to build Rafferty-Alameda, and Manitoba may put that project in jeopardy. I want Environment Canada to have confidence in our plans. We have spent years on this. Rafferty-Alameda even benefits Manitoba and at no real cost to people there. It will diminish their flooding and allow them to better anticipate severity and duration while they make plans for control structures on the Souris there.

Saskatchewan has taken the first, most important step in improving the Souris and I believe we should get credit for it.

I would like Environment Canada to support our effort and urge Manitoba to follow our example.

Thank you.

Environment Canada
Regina Sask

I attended the public meetings on Rafferty and Alameda and recieved a copy of your summary Initial Environmental Assessment. In it, I noticed concerns that riverine habitat would be flooded by the Raffert and Alameda reservoirs. Are you not aware that this happened regularly in the seventies? No effort was made to protect, replace, or reconstruct that habitat.

One of the reasons I support the Rafferty and Alameda project is the wildlife mitigatioon design. Having attended souris basin hearings and open houses, I was impressed with what the project will do to preserve and protect wildlife and habitat. There is a strategic approach to protection, which allows for reliability in conservation efforts. I think this may be the best Saskatchewan, maybe Canada, has ever offered.

I encourage Environment Canada to support the Rafferty and Alameda project.

Mrs. Marie Walliser
938 Eva
Estevan Sask
634-5005

Environment Canada

Regina Sask

TO THE BOARD REVIEWING BRIEFS SUBMITTED BY MAIL

I attended the recent hearings in Estevan and am delighted to add my voice to the virtually unanimous support of the projects from this city.

As a businessman here, I am deeply aware of the impact water, or lack of it makes upon Estevan. I support Rafferty Alameda because I believe in its ability to provide protection through conservation. We live with the curious dilemma of having either too much water, to the point of disaster, or too little water, to the point where persistent drought paralyzes our local economy.

Reliability of water is critical for cattle and grain farmers. It is a fundamental factor in their income. To be frank, their income is my income. If they don't make any money, I don't either. One of the greatest local costs is feed, what can't be provided locally, must be trucked from elsewhere. Frequently, farmers here must buy feed from other provinces and pay for its delivery here. This is a huge constraint for cattle and dairy producers.

Rafferty and Alameda's capacity to encourage irrigated hay production not only meets a local need, but keeps the money in the province, specifically, in the Estevan/Alameda area. That's good business for producers and it means good business for me.

This area currently lacks confidence. We have had one bad year after another. Successive drought, coupled with the fall in oil and gas activity, has crippled the economy of southeastern Saskatchewan. We were ripe for a project the size of Rafferty and we welcomed it whole heartedly. When construction started at Rafferty, the enthusiasm here was tremendous. We were astounded when the federal license was withdrawn. I personally, find it very difficult to understand what motivated that decision.

Our people were working, our city was committed to accommodating new growth, and the bottom fell out. Jobs are now lost, UIC claimants have gone way up, no other opportunities are available. My business is suffering as well. Many of us who planned to expand have stopped dead. Businesses, who had hired new staff in anticipation of increased demand, have laid off those workers.

We have been "on hold" now for nearly three months. It is hurting this city deeply. The area was already in trouble, we threw all of our efforts into this new opportunity, and now we are literally being ground into the dust

I have read Environment Canada's Draft Initial Environmental Evaluation I am also fully familiar with the work and commitments of the Souris Basin Development Authority I am confident that each can accommodate the other with very little difficulty

The stakes here are very high We, in Estevan, are talking about protecting our homes, protecting our livelihood, and conserving water You want to protect the environment Please accept that we, who live here, are probably more sensitive to that than you are.

Let us build Rafferty Alameda Let us enjoy the commitment and assistance of your department in building it I don't mind if you want us to build it better but for God's sake , let us build it

Mr. Mark Walliser
1284 Veterans Cres
Estevan Sask
306 634 4025

Wm. J. White
Goodwater, Saskatchewan
July 7, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan

Attention Miec Dick

Dear Madam,

Re Rafferty dam if built on the environment of the upper Souris River

I Wm. J. White was born and have spent my entire life next to the Souris river. Have completed forty years as member of the Lomond RM #37 Council Thirty-eight as Reeve.

1. The Weyburn Oil field is mostly situated in the RM of Lomond and has gas line, high pressure water line, oil flow lines, pipelines leading to the Trans Canada Pipeline. All the above lines cross the Souris River.

2. The possibility of the valley being flooded would destroy 2774 of hay land 2217 acres of grazing land and 1046 acres of farm land.

3. The valley west of Mainprize park has thick tree growth along the river channel, would be lost if it was flooded for only one year.

The west end of the proposed flooding would destroy a unique part of the valley. The only natural trees in the district, wildlife habitat, wild fruit, hay flats, and clanery that attracts a lot of interest Lutheran Bible Camp and Mainprize Park.

Yours truly,

"Wm. J. White"

July 5, 1989

Environment Canada
Inland Waters Directorate
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Attention: C. Dick

Dear Madam:

Re: Rafferty Alameda Project
Written Presentations to the Federal
Department of Environment
IEE

Enclosed are 3 copies of my written presentation for submission to the Director General, Conservation & Protection, Western & Northern Region, in regard to the Rafferty Alameda Project IEE. If there are any questions or concerns arising from my presentation, I would be pleased to assist in any way I may. Please contact me at by mail at Box 1318, Weyburn, Saskatchewan S4H 3J9, or by phone at (306) 456-2770.

Thank you.

Yours truly,

Don Wilkinson

DW af
Enclosures

My name is Don Wilkinson. I ranch in the Goodwater, Saskatchewan area. As a former Federal Government employee (P.F.R.A.), and now a private landowner, I have serious concerns about the impacts of the Rafferty Dam and its resulting reservoir on the Lomond #1 P.F.R.A. community pasture and private lands along the Souris River, Roughbark Creek and Jewel Creek. These concerns are about the loss of and loss of use of federal land within Lomond #1 and private land adjacent to the Roughbark Creek.

The river valley is wide and flat with little elevation change from the dam to the upper end of the reservoir. To hold 15 metres of water, the reservoir will be 57 kilometres long. The valley does change from the bottom end to upper end. At the dam structure there is a small river channel. This increases the flooding and the salinity problems in this area. Further up the valley, the salinity decreases and the channel is deeper and straighter up to Dr. Mainprize Park.

At the park, the river channel starts to meander, resulting in very highly productive soil deposits on the river curves. These deposits retain groundwater from oxbow to oxbow.

The tree growth along the river starts two miles upstream from Mainprize Park and increases in amount of growth upstream to the forks of the Roughbark and Souris River. The tree growth continues up to grid 705, where it decreases and disappears 1 1/2 miles upstream from the 705.

Tree growth is prevalent on the Roughbark Creek from the fork with the Souris, upstream approximately 1 1/2 miles to where the Roughbark and Jewel Creek merge. It is at this point that the Roughbark Creek and Jewel Creek enter the community pasture and tree growth diminishes.

As a former P.F.R.A. pasture manager of Lomond #1 community pasture, I am concerned about the disruption Rafferty reservoir would cause to the viability of Lomond #1 pasture. Lomond #1 is comprised of highly productive native grass (21,880) acres, combined with another 1,600 acres seeded to tame grass for hay and grazing purposes.

The land required by the provincial government for the reservoir would be some 2,000 acres along Roughbark and Jewel Creek. This area of land is critical to the entire Lomond pasture because of the high productivity of the bottom land and top land, combined with the natural shelter and natural water supplied by the Roughbark and Jewel Creeks. If this land is fenced off at the present time, it would divide the existing pasture into 3 separate units. The reputation of this pasture was built on the highly productive grass with river water. The impact on the pasture will directly impact the pasture patrons.

(A copy of a brief presented to the Saskatchewan Water Corporation regarding patron impacts is attached).

Lomond #1 will lose approximately 2,000 acres, comprised of valley bottom, coulees and adjoining top land along the Roughbark Creek and Jewel Creek. The access to the natural water supply of the Roughbark will also be lost. It has been my observation, as manager of the Lomond #1 pasture and its 23,480 acres of pasture, that the loss of this area of native grass and natural ground features would be a critical loss. Several of the reasons are:

i) The Roughbark provides a continuous source of water for the pasture from Barnes Dam to where the Roughbark leaves the pasture east of Goodwater. The supply of water in Roughbark Creek is replenished by Barnes Dam, located on the NW corner of Lomond Pasture. Barnes Dam is opened once or twice during the summer. This kind of water supply cannot be replaced by dug-outs. This water supply will be lost when preperatory fencing is completed around the proposed reservoir.

ii) Loss of most of water supply from Jewel Creek in field A5, increasing the distance for animals to water and depriving them of access to water in section 13 and the NE of 14.

iii) Replacement water supplies (dugouts) would be difficult to develop and could never replace the natural river water supply.

iv) The loss of 2,000 acres of highly productive native grass in fields A5 and B1 south (see map attached), if these areas are fenced off as approved by the SBDA.

v) Impossible to acquire native range with natural shelter and natural water to replace the lost acres.

vi) Replacement with cultivated land seeded to pasture will cause major complications for pasture management, depending on where these acquired acres were located and how they would relate to existing native grass. Seeded grass is most beneficially utilized until the end of June, at which time cattle prefer and make better use of native grass.

vii) More refencing of grazing areas within the pasture will be necessary to utilize grass efficiently.

These losses would create management difficulties, reduce the viability and efficiency of Lomond #1 and, consequently, have a detrimental effect on patrons using the pasture. Further, these changes would disrupt the use of the land by

wildlife in the area, especially field A5. The A5 field is a no hunting area which provides shelter from hunting pressure during the hunting eason. This shelter is more important since the Critical Wildlife Habitat land east of A5 had its critical status revoked by the provincial government. Up to 200 head of deer have been observed at one time on the south slopes of the Roughbark valley and in field A5.

My second major area of concern is about how the premature preparation for filling and the fluctuation of water if the reservoir fills, will affect government and private land in the upper end of the reservoir. Briefly, these concerns are:

i) The loss of valley bottom land and coulees, which are highly protective for animals, from the weather. As a consequence, these areas are frequented more than the grazing topland.

ii) The premature clearing of tree growth in the valley bottom will destroy shelter and habitat.

iii) The removal of existing fencing and the premature construction of fencing around the proposed reservoir area.

iv) The devastation caused if the reservoir should fill and fluctuate as Environment Canada has predicted, up to 9 metres. These fluctuations will destroy all growth in the flood plain, leaving no usable vegetation, if any. Also, there will be erosion, loss of grazing and loss of habitat.

If the reservoir does not fill, then the preparatory work will be environmentaly costly and completely wasted.

These concerns about the impact of the preparation for filling and the Rafferty reservoir on government and private land in the upper end of the reservoir areas, suggest to me that a modified dam, filling up to the present Mainprize Park, and a wetlands dam on the 705 grid, would take out less productive land and less land in total.

At a public meeting in Goodwater in 1988, Mr. George Hood of the SBDA said that a smaller dam would give flood control to Saskatchewan citizens in Estevan and downstream. Mr. Farrell of Cochrane-Lavelin, has indicated Rafferty will take 40 years to fill, but that some uses of the water will start before the reservoir would be full. This use could also start in a smaller dam once the water capacity reached the certain level. I would also note that the productivity of the soil decreases from 705 north upstream, meaning less productive valley bottom is lost than will be lost downstream from 705 to

Mainprize Park. Finally, I am also concerned about the provision to the City of Minot of flood protection which the people of that state refused to allow in their territory. They found the environmental cost of their proposed dam to be too high for their area. If Rafferty is built as proposed, Canada and, particularly, southeast Saskatchewan bears the full environmental cost and the non- environmental cost. I, and many other people, would not be opposed to a modified dam and a 705 wetlands dam which, properly planned and independently evaluated, would save the most productive part of the valley and prevent a significant number of problems from developing while, at the same time, allowing for water management.

Wawota, Saskatchewan
S0G 5A0
July 7, 1989

RECEIVED
JUL 1989
ENVIRONMENT CANADA

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan

Dear Sir:

I am accepting your public invitation to respond to the Initial Environmental Evaluation study on the Rafferty-Alameda dam project. My response will deal with your concern about navigable waters and the listing of it under the grouping of significant impacts.

In the I.E.E., you have stated that the Rafferty Dam on the Souris River and the Alameda dam on the Moose Mountain Creek would interfere substantially with navigation. This is an unrealistic observation. In the past few years, there is simply not enough water to boat on. One can walk on the river bed but not sail on it. They can hardly be considered navigable waters. The only time one can sail on it is in the major spring flush and if it is floodwaters one does not want to be on the river in the first place. The I.E.E. states that hazards like the spillways and intake structures need to be properly marked. As in any kind of reservoir construction, these markings take place to protect those boating from these hazards. The dams are located on the portion of river where navigation is an impossibility for most of the year and when it is, can only serve small crafts such as canoes.

To my knowledge, the Souris Basin Development Authority has agreed to place markings for boating, canoeing, and rafting on the reservoirs as well as the construction of boat launches which gives the public access to the waters of the reservoirs. The recommended mitigation concerning navigable waters would be needed anyway in order to develop the area into a safe, successful recreational area.

In closing I would like to state that the concern over navigable waters is trivial as is the measures needed to rectify it. The dams must be built, in fact, if there is to be any navigation in the area at all. I hope that something so desperately needed as the dams will be allowed to proceed, especially if it has already met with approval by the residents.

Thank you.

Yours sincerely,

Brent Wilson

Brent Wilson

THE RAFFERTY - ALAMEDA PROJECT

PRESENTATION

TO

ENVIRONMENT CANADA

AT

BRANDON, MANITOBA

ON

JUNE 29, 1989

PRESENTED BY:

GERRY WRIGHT

BOX 783
OXBOW, SASKATCHEWAN
S0C 2B0

TELEPHONE: 306-483-2337

Mr. Millard, Mr. Burns, Environment Canada Officials, Ladies and Gentlemen:

I would first of all like to congratulate Mr. Millard on the way he has chaired this series of public hearings. After attending four of these meetings --- in Oxbow, Estevan, Melita and tonight in Brandon --- I can only congratulate the panel on their patience and the understanding they have shown.

I have a been a resident of Oxbow for the last eighteen years. I am a former teacher and have been involved in several community and regional organizations such as the Recreation Board, Curling Club, Rink Board, Moose Mountain Regional Recreation Association, Tourism Committee, etc. Through this involvement I feel that I have a good understanding of the feelings of the residents of South East Saskatchewan.

I have supported the concept of **WATER MANAGEMENT** for many years. I have witnessed the devastating floods of 1974, 1975, 1976 and 1982. I have also witnessed the years of drought and dryness. Water is a natural resource that is needed, but it is a natural resource that must be **MANAGED**. This management can occur through the building of the **RAFFERTY AND ALAMEDA DAMS**. These dams **MUST BE BUILT NOW**, not started next year, or in five years, or in ten years.

../2

There have been people accidentally killed because of the flooding of the Souris River; there have been people who have had to move out of their homes because of these floods; there has been devastation, destruction, and economic damage because of these floods . ISN'T IT TIME THAT WE PUT A STOP TO THIS DEVASTATION OF HUMAN LIFE AND PROPERTY DAMAGE.

After attending the public hearings in Oxbow, Estevan and Melita I have heard approximately 60 people present briefs to this panel. Of those 60 briefs I have heard only 3 of those people say that the dams should not be built now. I believe that many of the opponents of this project have been given the "mushroom treatment" --- this is defined as being kept in the dark and fed manure[1]. After listening to these briefs, I have found that the opponents of this project are against it for one of two reasons --- either because it was the Progressive Conservative Government of Grant Devine that initiated the project or because they are opposed to progress of any type.

After listening to the brief presented by Mr. Cummings, Minister of Environment for the Province of Manitoba, I can understand why the government of this province has taken a middle of the road position. How can a minority government support a project they

.../3

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[1] The Regina Leader Post, June 24, 1989

know is needed and give it 100% of their support, if they know they could be defeated and calling an election at anytime.

The value of water storage and the major objective of the Rafferty-Alameda Project was summarized by the Province of Manitoba to the International Joint Commission as follows:

> "It will be evident that to make use of the Souris River water, storage is essential. In years of abnormal runoff, particularly the high water years, there is plenty of water for all purposes in both the United States and Canada, provided the facilities are available to store water in the spring to carry over the balance of the year. In years of low flow, however, there is insufficient flow for any purpose in either country. The only solution, then, is to provide storage reservoirs to carry over from year to year and make use of the floods which would otherwise run to waste, and it would appear that in consideration of any division of the boundary waters of the Souris River, storage should be considered, and that instead of considering any daily or even yearly division of the stream, the period considered

.../4

> should be of sufficient duration to facilitate swap of waters from time to time so as to make the best possible use of the high floods which occur by using the storage capacity available.$_2$"

This statement is as valid today, if not more valid, as it was in 1940.

I can understand the concerns of some of the residents of Manitoba with regards to water quality and water quantity. With regards to the quality of the water, it would seem to me that if we are not to receive the sewage of the cities of Weyburn and Estevan and also because water will be released from the dams over the period of several months and thus cause the river to flow more often, the quality of the water must only be improved.

Tomorrow night, I have been invited to speak to the graduating class of Oxbow High School. I am concerned about what I am going to say to these Grade Twelve graduates. There are few opportunities in our community for these people. What are the youth of today and the leaders of tomorrows going to do. Several of them would like to stay and work in Oxbow or our surrounding communities --- but where are they going to get a job. These young people, the next generation, want to see the Rafferty-Alameda

.../5

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2. Souris Basin Development Authority, Questions and Answers Rafferty Alameda Shand" Question 3

Project completed. They are saying "What's stopping it? Why doesn't someone get the job done!!"

I am not going to waste your time listing all the benefits that would be gained by the building of the Rafferty and Alameda Dams. You have heard about the benefits to the water supply for those who live on farms or in towns and cities along the Souris River; the benefits for recreation; the agricultural benefits; the industrial benefits; the economic benefits; the tourism benefits; the flood control benefits.

I would urge your committee not to delay this project any longer. If some project has to be delayed to satisfy the bureaucrats in Ottawa, then let us not stop a project that has been studied so much. The study of the Rafferty-Alameda Project has reached "analysis paralysis" ---which is defined as what happens when an issue is studied excessively$_3$. Your committee is facing a enormous amount of work in the next month. But after listening to 60 briefs before tonight, I feel very strongly that there is only one conclusion that you can come to --- and that is to recommend to the Federal Minister of Environment that he immediately issue a license to build the Rafferty and Alameda Dams! Let us get on with a job that should have been completed years ago!

Thank you for time and attention.

---

3. The Regina Leader-Post, June 1989

July 7, 1989,
Carlyle, Sask.

JUL 1989
RECEIVED
ENVIRONMENT CANADA

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.
S4P 3R4

Dear Sir,

I support the Rafferty-Alameda Dam Project and I want the project to go ahead. It's a necessity for the area and it is a good idea whose time has come.

The concern I have with the IEE is its report on waterflows and Manitoba's suffering because of low waterflows. It has been suggested many times that Rafferty-Aalameda does not have the support among Manitoba residents. It is interesting to note that the Manitoba Minister of the Natural Resources Jack Penner, stated in the Legislature that at a meeting with all the municipalities in and along the Souris River, he was told to proceed and not to oppose the Rafferty-Alameda Project because they would be better served because of the project. In a subsequent meeting, the municipalities not only voiced support but asked that the same type of projects be constructed in Manitoba. Mr. Filmon has stated that his main interests in the project are water quality and quantity. He said that he had been given assurances the project would not harm these interests while the tune may have changed, the fact is that Filmon and his other Rafferty supporters are caught in a minority government situation. If the leaders of Manitoba's affected municipalities support the project, then the project

should go ahead.

Last year the Senate got involved and was going to hold hearings. Even a senior Manitoba government official said that "it appears the Senate and its involvement in these negotiations are far more political than anything else, and it concerns me". Ever since this project has become a political issue, the facts become obscure and distorted. Those opposed are opposed for personal political convictions. They are not opposed to it because of environmental reasons, but because of the political benefits accorded to them. This is unfortunate.

The people who live in the area support the project and because they live beside the dams and reservoirs, they have taken an interest in the environment. If these people are satisfied and are actively supporting the project, it should go ahead. I ask you, please let us build the project because it is important for all of us.

Thank You,

Audrey Young

Audrey Young,
Telephone: 453-2317

Mr. Chairman:

As concerned citizens and elected officials of the Town of Alameda we support the Rafferty/Alameda Dam Project. The Rafferty project because of the potential need for water plus electric power in the future, it would also help control water in the Souris Basin.

The extreme flows that we have experienced in the Souris River below the confluence of the Moose Mountain Creek have continuously and steadily done a considerable amount of flood damage. Beaver Park is one area which experiences continual structural damage and flooding plus many farm buildings, farm land, bridges and roads along the river.

We know that without proper river management upstream with the continued amount of additional drainage water that is coming into the river with the varying weather conditions and with a totally uncontrolled use of the river valley from one end to the other there will be flood after flood. You know, Mr. Chairman, that without proper water management this valley can never be properly utilized and we know that the Souris River can be managed.

Water is a scarce resource in Southern Saskatchewan and is a high priority in considering the Dams. The effects of the recent drought (the worst in the past 50 years on the prairies) have been particularly difficult for communities in the Saskatchewan portion of the Souris Basin. Several communities in this area have had to either ration water or apply for assistance in digging wells. The Environmental Impact Statement, prepared by the Souris Basin Development Authority, clearly outlines the future potential for growth and development. Not only does this project show that we can utilize our valley for increased recreational facilities, but also there is a potential for agricultural development through irrigation. The potential for new industries in our area would be enhanced

with the guarantee of plenty of water. In addition the creation of the Rafferty and Alameda reservoirs, in particularly in our case the Alameda reservoir will provide a much needed water based recreation facility which the people in this part of the province would welcome.

The large body of water created by the Alameda Dam will no doubt relieve some of the overcrowding of the Moose Mountain Lake Resort plus the deterioration of the water level is causing concern. Fishing, duck and goose hunting would be providing a plus to this area.

We support this project because we have seen millions of gallons of water pour down the Moose Mountain Creek to be lost forever.

The Souris Basin is among the most water scarce regions of Saskatchewan with a semiarid climate. Evidence of this is seen by:

-fewer farms irrigating than in other areas of the province;
-little water-based recreation;
-frequent municipal water shortages including rationing by a number of towns within the Saskatchewan portion of the Souris Basin.

While the Souris Basin is one of the most water scarce regions of the province, the river does flood areas of Saskatchewan, North Dakota and Manitoba.

Major floods occured in 1969, 1975, 1976 and 1979 which in cumulative terms resulted in millions of dollars in damages to personal property and farmland.

As an international river, the Souris Basin is governed by the terms and conditions of the Boundary Waters Treaty and the 1959 Interim Order for the Souris River. This means that Saskatchewan has a legal right to retain 50% of the annual flow of the river.

On average Saskatchewan because of the absence of dams and reservoirs on the Souris within the province has only stored 15%of the flow it was entitled to, so consequently the other 85%of Saskatchewan's share was passed on for use primarily in North Dakota, by also, in certain years, Manitoba.

On the industrial side, southern Saskatchewan also has plentiful supplies of low sulphur lignite coal. Studies initiated in the latter part of the 1970's by the Saskatchewan Power Corporation and subsequent negotiations with Manitoba Hydro determined that the most economical means of generating power after the completion of the Nipawin Hydro Project would be a thermal-electric generation station near Estevan.

Demand for power in Saskatchewan is increasing at an average rate of 1% per year and there is a demonstrable need for acquiring power for the province.

We believe, with the construction of the Alameda Dam and reservoir, that not only could we save this water for agricultural use, for domestic and industrial use and for recreational use, but we can also put an end to flooding. The possibility of flooding the Alameda town water basin supply is a great plus for the community and will guarantee a good water supply in the future. The recreational possibilities alone provide the Town of Alameda with an opportunity to survive during this period of economic centralization. The Town of Alameda will become the springboard of recreational development along the west side of the reservoir and we look forward to this opportunity. We have one final comment in support of this project and we don't know how many of you have lived in a climate like this which is dry and gets drier. The possibility of creating a water reservoir here for our use throughout the year is probably the most important development that has ever occurred in the history of the Town. We point out to you, Mr. Chairman, that we have been talking about this opportunity for years. In fact, Sir, as mentioned in the minutes of the town in 1907 was when it was first proposed.

We have been waiting a long time for this project and we are prepared to do anything in out power to ensure that it goes ahead.

We ask you, therefore, to approve this project.

Submitted by Mayor Robert W. Young
June 29-83 Brandon Man.

Carlyle, Sask.,
July 7, 1989.

RECEIVED
JUL 1989
ENVIRONMENT CANADA

Environment Canada,
1901 Victoria Ave.,
Regina, Sask.

Dear Sir,

I respect the need to care for our environment. In my view, everyone of us who lives here knows more about the land and what lives on it than any of the specialists you could bring in. We know what will grow and thrive and we know that water is essential for life. So is food. We are food producers in this part of the world and we could expand that ability.

There have to be some tradeoffs. What we can offer the world is important - I read almost daily about food shortages, famine and drought in other parts of the world. We are in a special position here - we know that with Rafferty Alameda, we could manage drought years and I like the idea of producing food for those countries that can't. Rafferty Alameda has to be seen as a water storage project that has more potential for net gain than cost. It is not an irresponsible project - years and years of public involvement have gone into its development. In asking for it to proceed, we know what we are doing, We are protecting our land, increasing our ability to be productive and mayve in a small way, making a contribution to ensuring more food for more people.

I am willing to admit that some may see our enthusiasm for this

project as selfish. We have fought for it chiefly for protection for our homes, property and livelihood. Certainly, however, some thought should be given to the contribution that our livelihood makes. It seems to me that at this time, food producers should be recognized for the contribution they can make, and that Rafferty-Alameda should be recognized as an important element in helping us do the best we can.

Yours truly,

C & C Agencies
Melita Ltd.
120 Main Street, Melita, Manitoba
R0M 1L0
Phone 522-3205

I support construction of the Rafferty/Alameda Project and urge Environment Canada to allow its completion. In my view, the mitigation strategy proposed for the environment impact of the project is both strategic and effective. It represents substantial opportunity to redress current habitat shortcomings attributable to drought and severe climate. There is also substantial reason through the improved flow, to have confidence in improved quality and quantity of water.

I hope to see Rafferty/Alameda viewed as a benchmark for additional control systems on the Manitoba side and as a vital first step in a comprehensive effort to clean-up the Souris River.

Greg Cameron
Melita, Man

Over the past several years, [illegible] in the Souris River Basin, I have attended a number of meetings and [illegible] discussions, and watched and listened to what has been going on, and I have learned from these discussions a couple of significant things. I heard them say that the Souris River is like a pail that fills up with water, snow, and ice in the winter time and then in the spring someone pulls the plug and all the water goes. That used to be all, like that happens. In fact, when all that water goes, there is none left for anybody, [illegible] none left for wildlife, none for agriculture and none for us.

It seems plain to me that by building reservoirs along these rivers, we will be able to benefit for many years to come. It also seems plain to me that all over the province, there have been hundreds and hundreds of little dugouts and reservoirs of all kinds built everywhere. There have been big reservoirs, like Lake Diefenbaker that have benefitted society and will benefit society for years and years to come.

We have an opportunity now to build for the future and [illegible] that we can create a balance between [illegible] agriculture, industry, and wildlife. This project, the Rafferty Alameda Project must go ahead now. I urge you to recommend approval.

Yours truly,
P.C. Box 313,
Melita, M.B.
R0M 1L0

Last winter I read in the Carnduff Newspaper that the deer were so thick in the farmers yards that they wanted to put killing programs in place to thin the numbers. Many farm people have indicated that year after year they have had considerable damage to their crops and haystacks by the herds of deer that move in that area. At the same time in the Rafferty valley, there are so few deer that they are hard to find and can be only found in small herds around areas like Mainprize Park where they have had feeding programs and where there is a little bit of cover.

I am satisfied that the plan to mitigate the wildlife, the waterfowl and other birds and animals is one of the best that has ever been created. In consideration of this, and our need for water in this portion of the province, I think that the Rafferty-Alameda Project should be built without further delay.

Supplementary Submission

to

Environment Canada

Regarding

Rafferty-Alameda Project
Draft Initial Environmental Evaluation

J. P. Dolecki
Department of Economics
Brandon University

July 10, 1989

Preliminary Remarks

This submission is intended to supplement my presentation at Environment Canada's public meeting on the Rafferty-Alameda Project Draft Initial Environmental Evaluation (IEE) in Brandon on June 29, 1989. The submission consists of a series of notes, observations, and documents relating to several issues of interest within the context of the IEE. Regrettably, the extremely tight time-lines established by Environment Canada prohibits an exhaustive analysis of material available. However, the material presented below provides further evidence for the necessity of an independent panel assessment, by means of which the such an analysis may be conducted.

I request that this Supplementary submission be included in the official public record on this matter.

1. re. Project Description

As noted in my Presentation of June 29, the Draft IEE contains an inadequate description of the project actually proposed. A summary of the major changes in the project proposal is included in a letter from R. MacDonald to Mr. Lucien Bouchard dated April 25, 1989, and attached in Appendix 1.

Of particular concern is the issue of groundwater pumping into the proposed Rafferty Reservoir, and the existing pumping into the Boundary Reservoir. That this proposal is under active consideration by the proponent is evidenced by a February 26, 1987 memorandum from D. L. MacLeod to Mr. G. Hood, also attached in Appendix 1.

Also of concern is the multi-level discharge feature on the proposed Alameda Dam, which is noted at p. 3-4 of the IEE. While a description of the impact of this feature downstream is included in the IEE (eg. p. 6-47), no analysis of its impact on the water-quality parameters in the reservoir behind the Alameda structure is referenced. One would expect that, with a multi-level discharge feature on Alameda, the water-quality behind the dam would be reduced--and this has implications for such things as fishery development and recreation potential.

There have been additional design changes whose impact ought to be examined. For example, at page 3-6 of the IEE, it is observed that "a rock face would protect the upstream side from wave action." This feature has apparently been deleted from the proposal. Thus, according to a memorandum dated Nov. 7, 1988 from Mr. G. Phillips to Mr. R. D. Farrell (attached in Appendix 1) the removal of the M-5 blanket from the upstream berm of the Rafferty Dam was approved on Nov. 3, 1988.

A second example of some importance to what Environment Canada has defined as an area of federal interest relates to downstream channelization. While this aspect of the proposal is described in general terms in the IEE at p. 3-7, there is no precise description of what exactly is going to be re-channelized. My search of the Saskatchewan Water Corporation Files reveals that the precise location of this work has yet to be determined, and the costs have yet to be ascertained. Clearly, a precise description of this work is necessary for an analysis of downstream effects.

2. re. Credibility of Existing Assessments

As noted in my Presentation, the Draft IEE falsely assumes that the environmental assessment work done by the proponents is scientifically credible. The problem here is underscored by the reference in the IEE at p. 1-9, that the document "...is largely based on an evaluation of existing information."

To the material I attached to my Presentation, I would draw your attention to the sampling of additional evidence which is attached as Appendix 2. Included here are:

A. a copy of the V.L. Harms April, 1989 study on rare and endangered flora, which, at p. 55 contains the observation that the project proposal "... appears to represent the most serious environmental threat to rare native plants of any such development mega-projects in Saskatchewan during the last generation or more.";

B. a copy of a March 2, 1988 letter from R. D. Farrell to G. Eggers which notes that the backwater effects in long creek below Boundary Dam were "neglected" in the development of tailwater elevation curves--despite the fact that Boundary Dam will be incorporated into the operating plan of the system for flood control and/or apportionment releases;

C. a copy of the analysis done by J. Stabler on the matter of irrigation (January, 1987) which as well critiques the approach taken by the SBDA to its

Benefit-Cost analysis;

D. Minutes of a meeting of the SBDA operating Committee of May 2, 1986 where it is noted that reviewers and authors of the proposed EIS are mostly one and the same people (p. 1) and , at p. 5, the acknowledged "net losses" in wildlife are to be handled as a Public Relations problem, rather than an analytical one;

E. a copy of comments by the US Fish and Wildlife Service of January 13, 1988 to the Board of Inquiry which raises questions about the thoroughness of the SBDA's EIS; and

F. a copy of the submissions by the Lomond #1 PFRA Pasture Committee and Norm Eggum to the Board of Inquiry which raise serious questions about the credibility of the SBDA's analysis of project impacts to the Community Pastures--which is of particular interest given the IEE's statement at p. 9-7 that "Data on the economic impact on patrons were not available" and the comments regarding "mitigation" for these effects;

3. re. Mitigation

As noted in my Presentation of June 29, there are serious concerns about the nature of the 'mitigation' proposals listed in the IEE, as well as the veracity of the proponent's comittmentment to this mitigation. In this context, the most serious issue relates to the question of wetland drainage in connection with or inspired by the project proposal (see, eg. p. 7-22).

Much has been made of the alleged comittment of the proponent and the Government of Saskatchewan to a no-wetland-drainage policy in the Sourie Basin. Attached in Appendix 3 are documents which raise questions about the degree of this comittment. These documents consist of two Draft Licences for drainage projects within the basin and a memorandum from T. Moser to W. Dybvig dated Jan. 9, 1989, in which the issue of the meaning of 'no net loss of wetlands' is discussed. Clearly, as I noted in my Presentation, there is a difference in meaning depending on how one defines 'basin'.

Included as well in Appendix 3 is a copy of a memorandum dates June 9, 1988 from R. Parker to W. Dybvig relating to Sourie River Channelization that contains, at page 2, the observation that water use for any proposed wildlife complex downstream should "be minimized." In addition, there is included a memorandum dated Feb. 11, 1988 from Mr. W. Dybvig to G. Phillips discussing operational releases at Alameda which observes, at p. 2, that the modelling done did not "take into account operations for environmental purposes" on the grounds that the SBDA is "currently investigating the need" for such operations.

4. re. Mis-scoping

As noted in my Presentation of June 29, the Draft IEE is mis-scoped in that many issues of considerable importance were not examined. I noted 3 such issues --the absence of an economic analysis in each affected jurisdiction; the international agreement relating to this project; and the Shand Power Plant.

Appendix 4 contains documentation relating to each of these areas.

With regard to the economic analysis I have included the following:

A. A memorandum dated June 29, 1988 to Mr. G. Trout from Mr. W. Dybvig relating to Sourie River Channelization where at p. 2 it is observed that "Some people have the perception that Estevan will be fully protected in a 1 in 100 year flood when the works are complete." This is evidently false, thereby reducing that aspect of the supposed "economic benefit" to Saskatchewan. I would also advise you that the EIS prepared by the proponent overstated the amount of flood reduction benefits to Saskatchewan because it merely reproduced data from the Sourie Basin Study--which is outdated, and included damage reduction in the reservoir area in the estimates;

B. A package of material produced by SCRAP which shows, inter alia, that the estimates of the SBDA state that there will be net losses to agriculture in Saskatchewan with this project. I would indicate to you as well that it is clear that the irrigation benefits claimed for the project by the proponents will not likely materialize due to (a) high on farm investment costs ($900-2400/acre) and (b) insecurity of irrigation water supply. With regard to the latter, the modelling done by the proponent suggests that while water can be made available to irrigators 70% of the time, the 30% when irrigation water will not be available comes in chunks of time of roughly 10 and 5 years duration! (see attached water balances). This should modify significantly the comment at p. 4-18 of the IEE (which, incidentally , is inappropriately reported, given the "scoping" of the document) regarding the "benefit/cost ratios for irrigation development, ie. it is misleading;

C. An article from the Leader-Post describing the case of T. McIntosh, who was wrongfully dismissed from the Saskatchewan Water Corporation apparently because of his statements that the project is not economically feasible;

D. A copy of my letter to G. Sinner dated March 23, 1988, in which it is indicated that the project promises net economic losses for the State of North Dakota; and

E. Two memoranda from 1986 which raise serious methodological questions in respect of the preparation of the Benefit-Cost component of the project analysis. Of particular interest here is the insistence on the "no project" alternative.

With regard to the International Agreement, I have included in Appendix 4:

A. a copy of the main body of the agreement, analysis of which clearly shows the lack of an enforcement mechanism for questions such as water-quality objectives; and

B. a copy of a memorandum from Mr. G. Hood to Mr. H. Hickman which indicates clearly that the main components of the Agreement were "pre-negotiated" by the SBDA and the Corps of Engineers. It is interesting to note that this was done before either the US State Department or External Affairs had authorized any negotiations.

With regard to the Shand Power Plant, I have enclosed a number of documents for consideration which speak to the question of the economic rationale for the plant (ie. if the plant is not economically justifiable as the least cost alternative to supplying power, then it cannot qualify as the "industrial use" which makes the entire project feasible as suggested at page 1-2 of the IEE) and the question of whether the emission control system (Tampella LIFAC) will work in the manner envisioned and at the cost estimated (which has implications for federal emission standards).

I have also enclosed in Appendix 4 documents relating to the question of a Garrison Project revival and the interbasin transfer issue--both of which are in need of investigation.

5. re. Public Input

The importance of public input into the decision making process and the assessment process is noted in my Presentation of June 29 and elsewhere (eg. Mr. Cullen's "Reasons for Judgement" of April 10, 1989). In Appendix 5, I have collected for consideration a number of documents which reveal quite clearly the approach taken by the project proponents. These include:

A. Minutes of a 21 February 1986 meeting of the SBDA Operating Committee, where the so-called Public Participation Program (actually, public exclusion program) is outlined;

B. A memorandum dated March 14, 1986 from V. Fowke to D. Macleod which indicates the screening mechanism for the determination of "legitimate requests for information";

C. A letter dated October 10, 1986 from Mr. G. Hood to Mr. R. Bower which indicates the veracity of "information" released to the public--here a flase claim of FWS agreement with the operating plan;

D. A letter from D. MacLeod to Mr. Halliday denying access to the Saskatchewan Water Corporations water model;

E. Several memoranda denying access to the public under various freedom of information act requests; and

F. A write-up of a meeting between project sponsors and officials in Souris--which may account for why it is that elected officials in Southwestern Manitoba are so mis-informed about the project and its impacts on Manitoba;

6. re. Manitoba Impacts

In general, the discussion in the IEE regarding Manitoba impacts is muddled to the point of obscurantism. Most of the criticism here can be implicitly grasp by reviewing the comments I submitted on the 1988 October report done by Manitoba Natural Resources. I would stress, however, the importance of clarity in presentation of what is known about the expected impacts on water quantity and water quality. In particular, the final IEE ought to clearly show the expectation that during the filling period of the reservoirs, Manitoba will receive less than average flows in every month of the year--and to show that result graphically, emphasizing that the filling period is anticipated to be 40+ years. This will dispell the mistaken notion currently held by elected officials in Southwestern Manitoba that Manitoba will be receiving more water on average during the summer months (cf. eg., the diagram on p. 5-22, which leaves such an impression). As well, it should be emphasized that the flood damage reduction expected is marginal--and that the belief in some quarters that all flooding will be eliminated with the project in place is ill-founded.

Concluding Remarks

To conclude this Supplementary Submission, I will reiterate the point which was emphasized in my Presentation on June 29. It is clear that the IEE provides more than sufficient grounds to advance the assessment process to "Stage II". I therefore would reiterate the recommendation that Mr. Bouchard be advised to refer this matter to an Independent Panel as per the EARP guidelines for a comprehensive and credible basin-wide impact assessment.

W. B. Downey
Box 896
Melita, Manitoba
R0M 1L0
July 6, 1989

Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan
S4P 3R4

Dear Sir or Madame:

I write this letter today in support of the Rafferty/Alameda project. As a taxpayer in the R.M. of Arthur and Town of Melita, and a Trustee in Antler River School Division I am witnessing an exodus of young people from our rural communities and an increasing burden on the remaining citizens to support our schools, towns, and municipalities.

It is my opinion that we must provide a means of maintaining our rural population or South-West Manitoba and South-East Saskatchewan will eventually become a "ghost land" so to speak.

Building of the Rafferty/Alameda project would be a positive step in reversing the trend I am refering to. I understand that the environment is of concern but I feel the process can still go ahead while the study takes place. If the trend of rural population decline continues there will be very few people left to enjoy the environment anyway.

I have confidence that the Souris River Development Authority have studied and planned this program and are very knowledgeable of what the future of the Basin will be if Rafferty/Alameda is built.

It is with these factors in mind that I strongly support the building of the above project and would hope that it will go ahead in the near future.

Yours truly,

"W. B. Downey"

July [illegible], 1990

I would like to take this opportunity to have my concerns in respect to the Rafferty-Alameda Dam placed on the record.

I am all in all not in favor of the project. I believe that it would prove to be a white elephant if ever completed.

North America's waterfowl is in a precarious position of dangerously low populations. Any project which will affect their numbers in any way must be researched as thoroughly as can possibly be done. It seems obvious that [illegible] and downstream flows will have a negative impact on waterfowl. I'm sure that the establishment of a large water body will do absolutely nothing to enhance waterfowl populations. Indeed, the birds do not breed in these large reservoirs, but they do use them as staging areas during migration. If this is to be the case here, it will only increase hunting pressure on waterfowl by increasing the numbers present and accessible during hunting season.

Fish and fish habitat in the Souris will unquestionably be affected. It seems very unclear from the IEE just what the effects will be, though it is expected that water flows, quantity and quality will be affected. It is imperative that more studies be carried out before altering fish habitats and impacting on fish populations. The possibility of creation of a recreational fishing area in the reservoir is a negative impact in my opinion. Inevitably this reservoir would be stocked for sport fishing, and it is generally seen that introduction of non-native species, [illegible] should be controlled. For rather I would like to have a natural stream with indigenous species and native habitat [illegible] existing as it [illegible] have before. The value of the present habitat [illegible] is underestimated.

It seems that very little information has been gathered on rare and endangered species in the area. The lack of research in this area is unacceptable and must be corrected. Species such as [illegible], ferruginous hawks, [illegible] falcons, [illegible] only four, are invaluable, and should not be affected by this or any other project.

The [illegible] for irrigation seem very few. To flood an area of land greater in size than that which will be irrigated is [illegible]. Though they complain of lack of water as well as flooding, the farmers have been operating for fifty years, and [illegible] to be operating. Perhaps if the longterm effects of irrigation were to be more thoroughly explored the farmers would not be so keen to bring in irrigation.

To sum up I feel it is essential that the full Environmental Assessment and Review Process be carried out on this project. This review must be carried out by an impartial and independent body. To allow the Souris Basin Development Authority would be totally unsatisfactory.

Thank you for taking my concerns under consideration.

Janet Kennedy

Janet Kennedy
Box [illegible]
[illegible], Sk.

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Many of the people who live in the area surrounding the Rafferty/Alameda and support it, are committed to protection and preservation of the environment. My purpose in writing is to say that we, who live here, see no conflict in our being committed to both.

We have seen the impact of drought on deer and small animals just as we have seen our cattle suffer. As we cut back our herds, nature cuts back as well, but more cruelly. We have participated in the habitat planning for Rafferty/Alameda. It has been satisfying to have our suggestions incorporated in the Authority's mitigation strategy.

Waterfowl have often been affected by Souris flood. Nesting sites and marshland are washed out and no resources were available to restablish that habitat. Rafferty/Alameda resolves water-related handicaps for wild as well as domestic animals. We are pleased with the approach and look forward to the project's completion.

George Lampitt
Councillor R.M. of Albert
Box 53 Tilston
Man.

Submission

to

Environment Canada

Souris, Manitoba

June 28, 1989

Rafferty Alameda Project

Initial Environmental Evaluation

R.A. Melvin

Pierson, Manitoba

R0M 1S0

The thoughts and comments contained herein provide a more detailed text and context for the oral brief submitted to the Environment Canada public meeting at Souris, Manitoba, on June 28, 1989.

This brief argues, in effect, that the Environmental Assessment and Review Process (E.A.R.P.), in this instance, is of local, regional, national and international significance - it will be a landmark assessment one way or the other with widespread environmental, economic and political implications. The brief suggests that the environmental assessment of the Rafferty-Alameda Project should be guided by principles of sustainable economic development; that the challenge presented by this assessment is to articulate practical criteria in terms of which this and similar projects framed in terms of usual principles of economic growth can be evaluated so that the direction towards sustainable economic development can be actually explored. An evaluation of the *Initial Environmental Evaluation: Draft Summary* (I.E.E.) with a view to enunciating criteria of sustainable development, leads to the conclusion that the second phase of (E.A.R.P.), public review by a Panel, is unmistakably required. This process should examine *all* environmental considerations in an integrated assessment of the Souris River Basin as a *whole*. Moreover, the Second Phase of the evaluation process, besides giving attention to possible mitigation measures, should carefully identify and examine alternative projects and strategies that could ameliorate water shortages while at the same time sustaining and enhancing the natural and human environment.

My interest and concern with respect to this environmental evaluation of the Rafferty-Alameda Project is at once personal and professional. I was born and raised in the Pierson district of southwest Manitoba within fifteen miles of the Souris River. I have canoed its waters, walked its banks, lived with the people who farm along its reaches and I have been moved by the long green sloping valley vistas of its meandering course. Although I spend a good part of each year teaching and researching in political science at the University of Western Ontario in London, Ontario, I am home at Pierson several months of every year. I live away from home but I have never left it.

As a Prairie boy and by profession, I have a questioning turn of mind. I have a good many questions about the Rafferty-Alameda Project: questions about the curious political-administrative-legal process that has led to this environmental assessment; questions about the over-all environmental impact of this Project; and, most importantly, questions about the way of thinking that underlies and expresses itself in this complex Project of such uncertain environmental fit. The purpose of (E.A.R.P.), as I understand it, is to provide a forum for a most sensitive and systematic questioning of this whole matter. Evidently the point is not to persuade but to uncover. The focus is not on potential sources of economic gain but on an examination and assessment of the interrelated environmental context. The objective is surely not to produce sufficient mitigation rationale such that this uncompleted Project can be brought to fruition. The object must be to re-open the question of the Project at its environmental roots and begin to formulate practical criteria for sustainable economic development. It is on these terms that the Project will be judged.

What, then, is the environment of ideas that provides a history and context for the Project? My grandfather operated a ferry across the Souris River east of Melita in the late 1880s and went on to homestead in the poverty plains area northeast of Pierson. The land and streams in this flat empty corner of the great plains passed from the gentle guardianship of native peoples to white settlers from the east. The first wave of settlement by these new people pioneered an agricultural way of living with semi-arid weather and soil conditions. Relatively self sufficient farm and business enterprises took place within the limits of technology, capital and environmental conditions. Yet in their thinking and simple technologies they carried ideas that would alter the face of the earth from sacred seasonal hunting grounds to evermore sophisticated farms, crop varieties and businesses.

The initial period of sod buildings on windswept treeless prairie land gave way to farms and villages, railroads, horse-powered agriculture, coping with drought and depression, mechanized farms, and ultimately, to large scale capital and chemical intensive agri-business with increased dependence on bank loans, supportive governmental policies and uncertain international market forces. Agriculture has now become an integral part of an underlying interrelated model of thought called unlimited economic growth.

Semi-arid climatic and soil conditions have not changed. Indeed, the importance of water rises exponentially in the context of increased inputs, high debt, larger scale of farm operation and greater market dependency. It is in response to the problem of water shortage that the

Rafferty-Alameda Project is said to provide a solution. The Project plan and implications are framed within the prevailing model of economic growth. In response to this long standing problem of water shortage, a traditional and habitual solution has been proposed. With the availability of big capital and state of the art technology, this Big Project is designed to alter, control and manage the natural environment - the Souris River Basin - in a way that will generate widespread benefits for industrial power production, employment, business; for lending banks, agriculture, flood control, recreation and improved wildlife conditions. It is apparent that a quite subtle and scarcely recognized way of thinking about economic growth dominates this perception of problems, causes, solutions and consequences.

The dominant mode of thought of which the model of unlimited economic growth is one aspect, takes its rise from a set of assumptions about human nature and the natural and physical universe in the 16th and 17th centuries. A world view or paradigm developed in which human thought constructed a mechanistic model of the universe as discrete inert independently existing material particles which would move deterministically to the rhythm of Newton's laws of motion. Man was placed outside, over and above nature in a predatory stance which legitimized the satisfaction of unlimited desires through the use, control and manipulation of the environment. The natural and physical environment was considered to be an infinite source of resources and energy and an infinite sink for waste. As this way of thinking unfolded, economic growth appeared to be unlimited and the validity of the assumptions upon which it rested appeared to be true and unshakable. Huge concentrations of capital with evermore sophisticated technologies could move mountains. Industry boomed, cities mushroomed, G.N.P. rose, technologies of all kinds blossomed - engineering, genetic engineering, chemical, nuclear and space age varieties. The promise became intoxicating and addictive.

This model of growth needed to expand and so it became international in scope and interdependent with governmental and military power. Mutinational corporations moved throughout the world following resources, energy sources, promoting markets and cornering cheaper labour. Banks profited on Third World loans, governments and their military are defended international spheres of interest upon which national and local economics had come to depend. Eventually rural hinterlands from the Amazon rainforests and Soviet northland to the Western Canadian prairies came under its sway. We are now controlled and consumed by a model of thought of our own creation.

Big growth generated Big problems. Growthmania set in, according to the economist Herman E. Daly, when we added to G.N.P. the costs of defending ourselves against the unwanted consequences of growth and happily counted the costs as further growth.[1] This is especially serious when we deplete geological capital and ecological life support systems and count that depletion as net current income. The growth model has become increasingly contradictory, counter productive and life threatening. Unlimited growth has occurred in interest rates, levels of debt, cost of living, inflation, unemployment, cultural diseases, crime, armaments and especially in ecological deterioration and destruction. We all know about the greenhouse effect, acid rain, pollution, the desertification of once promising irrigation projects, ozone depletion, resource depletion, and increasing poverty and death of the mounting numbers of the poor. Judging from Goldsmith and Hildgards The Social and Environmental Effects of Large Dams, even huge well intentioned dam projects often turn out to be counter productive.[2] These are facts that we know.

Evidently something is wrong with our underlying assumptions, with our way of thinking about ourselves, nature and economic growth. The basic problem of thought seems to lie in our having taken our assumptions and representations of the world generated in centuries old models to be a true and accurate picture of reality. We do not see that this reality is constitued in terms of these assumptions and representations in the first instance. That is to say, we make up and live out the actual practical reality of our life and times to which we later appear to be simply responding.

If the general situation is so troubled, what has been done, we might ask, by way of constructing an alternative way of thinking about ourselves, nature and economic growth? The concept and practice of sustainable economic development has emerged. This view is best enunciated in the Bruntland Commissions report of 1987 entitled Our Common Future.[3] This is now the direction in which the Federal Government and recently the western Provincial Premiers have committed themselves. In the light of mounting evidence of critical social, ecological and economic consequences of unlimited economic growth, the Bruntland Commission calls for a basic transformation of our thought and action. Sustainable economic development is a way of thinking

that, when combined with appropriate technologies and socio-political organizations, can provide sufficient economic potential to satisfy the basic needs of humanity, "while at the same time enhancing the environmental resource base upon which development must be based."[5] (my emphasis). This view implies that human kind is to be perceived as an inseparable part of the natural and physical environment. If we erode and destroy the environment then we stunt and destroy ourselves. If we sustain and enhance the environment then we can ensure life supporting systems for generations to come. Recent fundamental changes in theoretical physics support this view and suggest that physical reality is not fragmented into independantly existing parts but is rather an inter-connected whole including mankind in a process of continuous unfoldment.[5] The scientific-intellectual footings that would support transformation of world view consonant with principles of sustainable development are in place. The process of articulating practical criteria for sustainable development is before us. Indeed, it constitutes the understanding in terms of which the Rafferty Alameda Project is to be assessed.

What do we see, therefore, when we consider the Initial Environmental Evaluation: Draft Summary (I.E.E.) in the context of sustainable economic development? That is to say, does this Project satisfy basic needs "while at the same time enhancing the environmental resource base upon which development must be based"? Let us begin with water quantity which is such a crucial component of the Project's design.

The filling period, variously estimated at between 10 to 40 years, is the first critical consideration. Manitoba's chief hydrologist, Bowering, estimates that Manitoba would experience 29% reduction in water quantity during this period and approximately 18.7% reduction once the reservoirs are operative. The I.E.E. suggests pt 15% reduction in water for Manitoba. We assume that even though there will be ø less flow, that the highs and lows will balance out to provide more dependable regular flow. However, the I.E.E. states that "...the frequency of very low flow or no flow conditions would increase, and average annual flows would be reduced. Water quality effects would depend on flow." It is estimated in the I.E.E. that "North Dakota shortages would be a major problem and would occur in 75-90 years out of 100 after construction of the project." Downstream of Lake Darling "in dry or moderate years low flows and periods of no flow are expected in increase in summer, fall and winter in these reaches." We assume that the Interim Measures (1959) would guarantee Manitoba 20cfs and that this would keep our flow at or above normal levels. However, Manitoba has usually received significantly more than 20cfs and may be reduced to that level or lower insofar as "severe drought" conditions as defined by an aggregate volume of storage in North Dakota refugescould occur more frequently. Indeed, the I.E.E states that "as a result of the project North Dakota could declare "severe drought" conditions more frequently than in the past." It is also clear that "evaporation from the reservoirs would reduce the volume of water passed down the Souris." Nothing, of course, can be done to make more water to feed the Souris River and Moose Mountain creek at their sources. The only data concerning this issue that I know of is contained in the Saskatchewan Water Development Proposals (1987) on inter-basin transfers. It is claimed with respect to the Rafferty-Alameda plan that "the available draft in the Souris River is not sufficient for projected long-term requirements." The implications of this are disturbing especially insofar as it suggests not only the possibility, but the necessity of inter-basin water transfer in line with Alberta's sometimes explicit P.R.I.M.E. plans.6

In conclusion, reduced quantity of water clearly impacts the environment in serious ways. Spring flood-flow rejevenation of the Souris River downstream of the project would seriously affect flora (see Harms)7 and would effect the overall aquatic eco-system, especially fish and migratory birds and their habitat. Even the most vague criteria of sustainable growth, enhancing the environment, would not be met in this significant category of water quantity.

Water quality is a matter of equal concern and here again the evidence in the I.E.E. suggest shortfalls of some considerable magnitude. Although quality may improve in some instances below the dams, the I.E.E. states that "relatively poor quality water would be released from Rafferty Reservoir which would affect downstream water quality." During the uncertain filling period this reservoir would show marked increase in salts, minerals, some metals, boron and high mercury content for 10-20 years." For a filling period longer than 10 years or in successive dry years, Rafferty water may not meet irrigation standards for sensitive crops with respect to total dissolved solids and boron."..."high nitrogen and phosphorus concentrations may promote algae blooms"; "Anoxic (low dissolved oxygen) conditions would occur in Rafferty Reservoir, and fish kills would be common particularly in late summer and early fall and in low water years." Water quality in North Dakota would deteriorate downstream of Lake Darling
especially with increased nutrient loads from the wildlife refuges and Minot

sewage discharges. Manitoba, therefore, can expect that "the effects of the Project on water quality would be attenuated"..."Currently, at some times of the year, waters at the boundary do not meet Manitoba free ammonia objectives for protection of aquatic life, and the incidence of non-compliance may increase." "With reduced volumes, the river may not be able to assimilate sewage discharge from towns along the river." Low water quality negatively impacts all aspects of aquatic life and habitat, fish, migratory birds, flora and fauna as well as human use. With respect to water quality, especially in North Dakota downstream of Lake Darling and throughout Manitoba reaches of the Souris River, there is little doubt that criteria of sustainable growth - enhancing the environment, cannot be met by this project.

The flood control aspect of the Rafferty-Alameda project is not so closely related to the Environmental Assessment at hand and the implications for flood control remain unclear. Goldsmith and Hildyard in the Social and Environmental Effects of Large Dams (1985) show that large dams have often been ineffective in controlling floods. With respect to Manitoba, the I.E.E. suggests that there may be "some reductions in flooding" but "the impacts from flooding would be increased in rural areas of low water levels", that there would be "increases in agricultural flooding."

Migratory birds and their habitat would be seriously impacted. Indeed an annual loss of Saskatchewan waterfowl population is estimated to be 4300 birds plus indirect annual losses to Canada of an additional 4400 ducks from North Dakota waters. In North Dakota, "worst cases reductions in productivity are estimated to be 22,000 ducks annually. Around the Rafferty and Alameda reservoirs, "waterfowl populations may suffer increased mortality during fall staging..." The lack of mitigation measures with respect to migratory birds and their habitat constitutes a serious shortcoming. The over-all conclusion here is that criteria of sustainable development have clearly not been met.

The prospects for fish and fish habitat depend largely on water quantity and quality and the effects of channelization of the Souris River and diversion channels. The Rafferty reservoir would have relatively poor quality water, high mercury content for 10-20 years, algae blooms in mid to late summer, depleted oxygen levels leading to summer fish kills and the potential for winter kills. The I.E.E. states that "the reduced flows entering North Dakota and associated water quality effects, would result in a decline and possible elimination of the fish population in Lake Darling." In Manitoba "the Project would result in the loss or alteration of productive fish habitat."

In summary, the prospects for fish and fish habitat would not measure up to criteria for sustaining and enhancing environmental resources.

With respect to rare and endangered fauna "the construction and operation of the Project may adversely affect 11 species on the COSEWIC list", especially the Ferruginous hawk and Baird's sparrow. With respect to flora, "5 species of national significance" would suffer "significant adverse effects." In this case, "Opportunities for mitigation would be limited." In a word, there is absolutely no reason to suppose that criteria for sustaining and enhancing rare and endangered species would be satisfied by the Project.

Information deficiencies provide one of the strongest grounds for initiating Phase II of the Federal Environmental Assessment and Review Process. Practical recommendations for sustainable growth depend on sustainable ideas and sustainable information. Sustainable ideas are those which provide openings through and beyond habitual modes of thought which are often, as in the case of Newtonian assumptions, simply and erroneously accepted as tested and true. Ideas of sustainable growth must transcend the paradigm constraints provided by the crumbling foundations of our contemporary model of unlimited growth. Meaningful environmental assessment must rest on sustainable criteria of the soundest canons of intellectual and scientific inquiry as well as on the most perceptive insight of wisdom.

A brief review of significant information deficiencies presented in the I.E.E. reveals that "non-comparable data bases were used in studying the impact of the Project on the Souris River basin hydrology." "International water quality objectives against which impacts on transboundary water quality can be assessed do not exist"; "the E.I.S.s from the SRDA and the U.S. Army Corps of Engineers do not consider the collective impacts of the project and the U.S. Souris River Basin Projects on the quality of the Souris River at the North Dakota-Manitoba boundary." "Comprehensive mitigation and monitoring plans for waterfowl production would be required." "Insufficient information exists on fish habitat in the Souris River in Manitoba." More information is required on the Ferruginous hawk and Baird's sparrow, "The distribution and abundance of rare plant species in the Souris River flood plain in Saskatchewan and Manitoba needs to be studied in more detail." "Rare plant species within the Souris River valley in North Dakota have not yet been identified;" "Precise baseline data on poupulation numbers and extent of rare and endangered fauna within the Manitoba portion of the Souris Valley is presently unavailable." The list could go on. It is evident that Phase II of the E.A.R.P. is called for in order to establish the foundations in terms of which sound criteria of sustainable growth could be devised.

The serious interrelated crisis of our time, generated by a way of thinking and practice called economic growth, now demands a thorough examination and transformation of our thought and action. Fundamental assumptions about ourselves, nature, what we need and how we are going to get it, require careful analysis. The problems posed by the Rafferty-Alameda Project are at bottom problems in the way in which we think. A sound and practical post-modern course of sustainable economic development will incorporate high quality features from the outmoded model of economic growth which now falters so dangerously near the end of its course. We cannot go back to the world view and lifestyle of the native peoples who once frequented the Souris Valley. We have to find our own way in the context of existing conditions. For a time we will have to reconcile new principles of sustainable development within the older model with its concentrations of economic wealth, political power tuned to short term advantage, and firmly set institutional structures. This reconciliation requires, however, clear principles of sustainable development in the first instance as a top priority. Criteria of sustainable development compromised and weakened in advance in order to facilitate easy adjustment within the older model of growth will only serve to patch and cover and will not sustain and enhance the natural environment.

Insofar as this Environmental Assessment and Review Process will undoubtedly constitute a landmark case locally, regionally, nationally, and internationally, it seems imperative that the assessment itself be sustainable in terms of the most rigorous standards of research and analysis. It is evident from a careful review of the I.E.E. findings,the projected implications concerning water quantity, water quality, migratory birds, fish and fish habitat, and rare and endangered species, suggest that reasonable intuitive criteria of sustainable development have not yet been articulated and met. Nor do the I.E.E. findings reveal practical criteria of sustainable development of sufficient depth, clarity and precision to give environmental guidance for the assessment of projects such as the Rafferty-Alameda dams.

The issue in the Second Phase of this assessment is not simply that of showing adverse effects and mitigation measures for parts of an environment - water quantity and quality, a few species of birds, fish and fish habitat, some thousands of waterfowl and five or six species of rare and endangered flora. The issue is the need for a thorough assessment of the entire Souris River Basin as an interrelated ecological whole with a view to sustaining and enhancing environmental health and potential. It is highly possible that this river and its valley, one of three nationally designated unique ecological areas in Canada, could be enhanced to support a greater abundance of natural wildlife forms and provide increased economic potential of various kinds. As a consequence, the Second Phase of this assessment should identify and examine alternative projects and strategies that could ameliorate water shortages and provide flood control and which could, at the same time, sustain and enhance the natural and human environment.

In the 1880s my grandfather was among those who pioneered a way of thinking and living in the Souris River region. In the 1990s, rather than simply growing economically as the last gasp of the first breath, we need to grow in wisdom and pioneer a new way of thinking that enhances our environment and hence ourselves, for generations and generations to come. Rather than simply managing and controlling our environment to satisfy our rising expectations and desires, we need to manage and control our own thought and expectations in a way that will harmonize with and enhance the environment as an inseparable extension of ourselves.

Footnotes:

1. See Herman E. Daly, Steady State Economics (San Francisco: W.H. Freeman Co., 1977).
2. Edward Goldsmith and Nicholas Hildyard, The Social and Environmental Effects of Large Dams (San Francisco: Sierra Club Books, 1985).
3. Our Common Future: The World Commission on Environment and Development (Oxford: Oxford University Press, 1987).
4. Our Common Future: A Reader's Guide, (London: Earthscan Publications, 1987) p. 7.
5. See especially David Bohm, Wholeness and The Implicate Order (London: Routledge and Kegan Paul, 1980) and David Bohm and F. David Peat, Science Order and Creativity (London: Bantam Books, 1987).
6. See "Death of a Valley" in Harrowsmith, March/April, 1989, pp 38-40.
7. Vernon L. Harms, "Distribution and Status of Provincially Rare Plants in the Souris River Valley, South Eastern Saskatchewan, Fraser Herbarium Technical Report 89-1, April, 1989.

I am writing to you to suggest that if you are truly concerned with water quantity, you must see it in perspective. As I read your Draft Initial Environmental Evaluation, you are obliged to ensure that water quantity is maintained and improvements or control structures do not adversely affect downstream users.

As I see it, there must be a a corollary; i.e. that you are obliged to take an interest in improvements or control structures which benefit downstream users.

Rafferty-Alameda is a benefit. It provides flood control and regulates flow to the advantage of all downstream users. You must consider that NOT to build the project will adversely affect downstream users.

For years water control has been critical to this area. My hope is that Environment Canada will consider more carefully the adverse affects that occur without Rafferty-Alameda and allow the project construction to continue.

Yours Truly

COUNCILLOR
TOWN OF MELITA

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Brief to the Public Hearings on the Rafferty/Alameda Projects
submitted by Dan Nicholson and James Ritchie of Souris River Communications Cooperative Ltd.,
publishers of the Souris Valley Echo
July 9, 1989

As residents of the Souris, a town which draws its water supply directly from the Souris River we have a number of concerns about the Rafferty-Alameda dam projects. There remain a larger number of unresolved questions

Will Souris need to develop a new water supply as a result of the project?

How will Rafferty-Alameda affect navigation on the Souris?

Where will the water come from to fill the reservoirs?

The answers t these, and other questions, must be resolved before the project is allowed to proceed. There are many problems with the Economic Cost-Benefit analysis as done by the project proponents and a full-scale independent study is required to demonstrate the cost-effectiveness of this particular water conservation project

We are concerned that the study be done independently, since both the Saskatchewan and Federal governments have already compromised themselves on issue

A federal court ruling indicates that neither jurisdiction fulfilled its responsibility to the environment, or to the Canadian people. In fact, when an official of Environment Canada "blew the story" the Federal government's initial reaction was to attempt to discredit her

Under such circumstances, created by the Saskatchewan and Canadian governments themselves, there can be no public confidence in any judgement rendered by either of these bodies

We are concerned that the Federal Environment minister was never told that Federal lands would be affected by Rafferty-Alameda. If this was simple oversight why did so many politicians assert that no federal lands were involved? In the furor after the licensing, why didn't someone mention this to the minister?

Why didn't the Souris Basin Development Authority see fit to include this information in their EIS? If the SBDA is willing to conceal this information can we place any credence in their other claims? What other information is missing because of such oversights?

IN fact, the entire process by which the SBDA got their license is suspect, since allegations that the federal government granted the license in exchange for an agreement on Grasslands National Park and French language services in Saskatchewan have been raised, and not dealt with by the Federal government

The Souris Basin Development Authority has consistently tried to limit public debate on this issue. Debate has also been limited by a lack of information. We need a consistent set of figures on water quality and quantity effects of the dams on the Souris River

It is also interesting that the US Army Corps of Engineers report on this project doesn't consider future flows without the dams since this very real option exists, it appears that the Americans were misled as well

The selling of the project last year as cooling for the Shand station, and this year, its miraculous transmutation into a water conservation project, the withholding of some information, the careful ignorance of other information, all points to a sophisticated disinformation campaign by the Souris Basin Development Authority. This in turn indicates that there is something more to hide, or simply that there is no substance to the pro-Rafferty arguments

How can there be an informed public debate without more information?

Evaporation from the Rafferty Reservoir is likely to be a serious problem throughout the life of the project. The fact that engineers took the problem seriously enough to sign an evaporation agreement with North Dakota indicates the severity of the problem.

The Federal IEE indicates a number of deficiencies in the environmental work done to date. All these problems should be addressed in a comprehensive basin wide study

The need for a completely new study, done by an independent body should be clear. Rather than making ad hoc mitigation adjustments to a flawed study, an opportunity exists to consider the environmental effects of this project on the entire basin

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I have heard the old timers talk about this prairie when there was nothing here but fields and fields of grass, and huge prairie fires use to wipe the prairie clean, and how this has stopped because people have come and saved the land up and they have started to farm it and there is now roads, fields of summer fallow and, little groves of trees. In fact, you probably will not find a farm that is more than 50 years old in the whole Souris basin. It has changed from what it was years and years ago because people came here. There was no white tailed deer in the early days, they came with the people. The waterfowl benefited too because those early prairie fires use to wipe out all the waterfowl nesting area in one great big huge bellow of smoke, but now those are controlled and better and maybe there is a lot of land put into production to feed people, but that is the way of agriculture.

We have been given an opportunity to develop reservoirs, water management, environmental planning, and a wildlife plan that will last for years and years. As an example of how to do and create sustainable development in cooperation with neighbours in other provinces and other countries.

The Rafferty Alameda Project, in my opinion, has been one of the publicly discussed projects that I have ever heard of and for those people who have taken the time to inform themselves, to attend meetings and to read about the project, they can only approve it. This project will be good for everybody. I ask you to approve the construction of the Rafferty Alameda Project and to recommend to Mr. Lucien Bouchard that this project go ahead right away.

Gentlemen, I have been told that we can write to you and put our opinion on the record about the [illegible], Almeda Project. I think that it is very important that this is done.

Since this project began, I am amazed at all of the opinions that one can hear, whether this is a good project, or a bad project. I remember hearing a man on the radio [illegible] show say one day, after a discussion about the project, the man phoned and said I don't think that project is any good but he went on to say, "I have never been there, I don't know where [illegible], [illegible], and those places are. I just came here to [illegible] and I know this project is no good because dams are no good and I never did like dams". I could not believe my ears when I heard this man say this on the radio. He reminded me of that old cliche from the 1960's that went something like don't confuse me with facts, my mind is already made up.

If we are going to have to go through this process with people who won't inform themselves, won't find out about a project, won't talk to the people who have lived there, everytime we want to develop our resources, and then, so called "environmentalists" who come from all over the place and pass judgement without knowing what they are talking about, and if everytime we want to make some environmental changes, we are going to have to spend thousands and thousands and thousands of dollars looking at the tadpoles and pollywogs, the next animal to go the list of endangered species will be us, the human animal.

We have the knowledge, the technology, the means to build a reservoir, like the [illegible] Almeda Project, and build it with care and consideration for the future, as has been demonstrated by the [illegible] Basin Development Authority in their work on the environment. This is the first project I have ever heard of that has dedicated over [illegible] of its total budget to mitigation. This has never been done before and this is the first project that has done such extensive studies and information gathering that I have ever heard of, and in addition, this river basin has the advantage of having had several other studies to help create knowledge and information. It is absolutely ridiculous that this project has been stopped and it is even more ridiculous that it is costing us, the residents of [illegible], [illegible] dollars a day of our [illegible] tax dollars. This kind of foolishness must be stopped immediately, and this project must be recommenced at the earliest possible moment. We need the water, we need the future, we need the [illegible] Almeda Project and we do not need the added cost.

Clark's T.V. & Appliances Ltd.
MELITA • MANITOBA

My purpose in writing is to ensure that Environment Canada knows just how awful the Manitoba side of the Souris is. If your department is aware of the sewage and other filth there, I am sure that there can be no further objection to Rafferty-Alameda.

By improving flow in the Manitoba Souris, water quality will improve - if only because the sewage will move more quickly. Times of "zero flow" conditions will be reduced.

I would like to see more Environment Canada involvement in making Manitoba follow up on what this province is doing. Use the federal influence to make Rafferty-Alameda step one in cleaning up the Souris and then make Manitoba do their part.

I hope your department will let us do our part, by letting Rafferty-Alameda proceed, a nd then use this project as an example for the rest of the Souris.

Clark J. [illegible]
Box 430
Melita, Man.
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If you compare the productivity of the land in the valley of the Souris River where the Rafferty [illegible] will be built, in terms of agriculture production, wildlife production, recreation, or even scenic value to what we will have if that becomes a reservoir, the reservoir wins hands down. There is nothing in that valley. People who have farmed it and hunted in it, have only achieved border line success, and I don't know anybody who could rely on that valley for their total support. There may be a bit of hayland, there may be a bit of grazing land, there may be a bit of wildlife cover, and there may be some land that is good for growing a bit of wheat, but if you compare to really good hayland, and really good grainland, and really good wildlife land, then you know that there is nothing there. It is a barren, unproductive piece of ground that should never have been farmed in the beginning.

It is my opinion that flooding this valley for a reservoir was one of the smartest ideas that anybody has ever had and I am amazed that it has taken this long to get around to filling it with water. We should do this immediately, so that we have a guaranteed future because water is like gold to use in the southern dry prairies. The Rafferty-Alameda Project is a definite essential for the future.

H.B. Thompson
Box 416
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A Citizen's View of the Rafferty-Alameda Dam project.

It is important for Canadians to voice opinions about the environment. Therefore, I wish to state my misgivings about the Rafferty-Alameda project and I appreciate this opportunity to do so.

Generally, water quality improves with a higher volume of water. If this project goes ahead, Saskatchewan will retain 35% more water than formerly.
The 50% of water assigned to Saskatchewan is conditional upon no downgrading of water quality for Manitoba and North Dakota. I do understand that a more stable flow could be established by this project, but that advantage would be greatly offset by a reduction in quantity of water. If farmers complain now of poor water quality, they will find more fault with it after project completion.

Mercury levels in Manitoba fish will assuredly rise, we are told by experts. More research needs to be done to determine how Manitoba plant, bird, and fish life will be affected. Lower water levels in Manitoba will likely ensure more deposits of pollutants than at present.

My major personal fear surrounding this type of water management program is a long-term concern. If Rafferty-Alameda is regarded as step one, then step two could be the building of a canal from the Qu'Appelle River to the Souris River basin. This canal, if U.S.- financed, could be part of the NAWAPA* water diversion plan, as outlined and endorsed by Robert Bourrassa in his book "Power From The North". It is possible that a strictly utilitarian attitude to water, may totally color government policy and result in a severely altered environment. The same fear hovers over the scene of the Oldman River development, in Alberta.

*(North AmericanWater and Power Alliance.)

Mr. Bouchard, out of concern for the environment, must acknowledge the urgency of an independent and thorough review of the effects of the Rafferty-Alameda project on Manitoba. Expediency and short-term goals should not be over-riding factors in making decisions about this project,

July 3/89 Owen Trip
247-13th St.
Brandon, Man.
R7A 4P6
758 [illegible] 3018

I am writing to encourage Environment Canada to make a greater effort in facilitating the Rafferty-Alameda Project. The elements identified in your draft Initial Environmental Evaluation have already been considered by the Souris Basin Development Authority. I have seen their mitigation strategy at public meetings, and I am sure that it goes as far as possible in ensuring that plant and animal life are protected. Water quality and water quantity will probably benefit from better flow.

The truth is, no one really knows the water issues for sure. It's all analysis and studies but few certainties. The Authority plans to monitor the water and that's sufficient reassurance for me.

My suggestion is that you let the project go ahead, built in conditions as the provincial environment department did, but don't delay it further. It is unreasonable to ask the Authority for absolutes when you yourselves, your scientists, know that there are no perfect answers.

Henry Voth Reeve R M of Brenda
Box 97 Medora MB

RECEIVED
JUL 1989
ENVIRONMENT CANADA
REGINA SASK.

Ducks Unlimited Canada
[illegible] Markham Road Winnipeg, Manitoba R3T 4J6
Phone (204) [illegible]

June 21, 1989

Dr. B.M. Burns
Twin Atria #2, 2nd Floor
4999 - 98th Street
Edmonton, Alberta
T6B 2X3

IVED
ENVIRONMENT
CANADA

Dear Dr. Burns:

On behalf of the Manitoba operation of Ducks Unlimited Canada I appreciate the opportunity to comment upon the contents of the Initial Environmental Evaluation for the Rafferty-Alameda Project that was recently released. As noted in the report on migratory birds, duck populations have declined substantially in the past 20 years and maintenance of populations is dependent on "protection, restoration and management of habitat. Persistent loss of waterfowl habitat should be reversed".

The Manitoba portion of the Souris River is rated by the Canada Land Inventory as Class 3 or 4 waterfowl habitat suggesting the area is of moderate to good value for waterfowl production. However, the IEE while acknowledging this rating, states that the area is not considered very important to waterfowl and further, that project-related losses to habitat will not be significant.

It would appear that knowledge of the area's value to waterfowl is fairly limited. Also, as noted in the first paragraph any loss or degradation of waterfowl habitat is unacceptable and, therefore, the impacts to the Souris in Manitoba should not be ignored. The report indicates significant impacts are likely for Saskatchewan and North Dakota, but that complete mitigation is possible.

In this light I recommend that because of the limited data, the Souris area in Manitoba requires greater investigation to determine both its present value to waterfowl and potential impacts of the project with a view to mitigating any losses. The current state of waterfowl populations plus the proposed objectives of the North American Waterfowl Management Plan demand a policy of

.../2

"no net loss" of waterfowl habitat in all areas, including potentially impacted areas along the Souris River in Manitoba.

I wish you success in your upcoming public hearings and look forward to reviewing your recommendations when available.

Sincerely,

R.A. Wishart
Provincial Manager

RAW/es

CANADIAN NATURE FEDERATION
FÉDÉRATION CANADIENNE DE LA NATURE

453 Sussex Drive, Ottawa, Ontario K1N 6Z4 (613) 238-6154

Comments on:
"Draft Summary,
Initial Environmental
Evaluation"
of
the Rafferty-Alameda
Project

July, 1989

by

B.T. Aniśkowicz
Co-ordinator of Conservation Programs

INTRODUCTION

The Initial Environmental Evaluation (IEE) of the Rafferty-Alameda project addresses many documented concerns and points out some major problems with the project. Nevertheless, there are a number of areas that the Canadian Nature Federation feels require additional attention. For ease of reference, these are dealt with in the order of presentation used in the IEE draft summary.

RAFFERTY-ALAMEDA PROJECT OVERVIEW

The project description and what it may achieve in terms of flood control, thermal power cooling, irrigation, recreation, etc. has a very positive tone. A more balanced and realistic presentation would definitely be in order, particularly as these developments are suggestively termed improvements, which they may or may not be.

Certainly, no one questions the benefits of flood control. But there are other, less destructive means to the same end. And at least some of the other objectives of the project can also be achieved by other means. For example, the Shand Thermal Generating Station can be run just as efficiently using technologies other than water cooling.

The first question the IEE must ask is: will the means proposed actually achieve the desired results? It makes little sense to flood currently productive agricultural land in order to irrigate land that is now arid and unproductive, with a net loss of productive acreage. Serious concerns have also been raised about the filling of the reservoirs to operational levels, the time this process will take and the means that will be employed to achieve operational levels should nature not co-operate. If the reservoirs do not fill according to predictions, the irrigation objectives will be jeopardized. Even if they do, the quality of the water in the Rafferty reservoir is expected to be extremely poor. Consequently, the recreational and tourism objectives will not be met.

All this puts into question the wisdom of the entire project. At present, it appears as though the project will not serve the purposes for which it was conceived. It may be possible to attain the same objectives with much less environmental impact and damage (and far less expense). The CNF is disturbed that the debate is for or against the dams, with little apparent effort invested in determining whether alternate approaches may be more likely to achieve the desired objectives at lower environmental costs.

It is imperative, therefore, that the environmental factors determining whether or not the project will succeed be properly evaluated. Only if this question can be answered in the affirmative is there a need to proceed with further considerations. Stated differently, paying a certain environmental price may be justified if certain benefits can be accurately and confidently predicted. But if the desired results cannot realistically be attained, then any environmental, or other, price is too high.

WATER QUALITY

If water quality in the Rafferty reservoir will be as poor as predicted, the reservoir will be unsuitable for recreation (cottages, swimming, fishing, etc.) and is likely to be inadequate for at least certain species of wildlife. Dilution of Rafferty water with clean(er) water from the Alameda reservoir and other sources is not an acceptable mitigation measure. Steps must be taken to remove the pollution, not dilute it before flushing it downstream.

MIGRATORY BIRDS AND THEIR HABITAT

This section deals with waterfowl only, probably because they are game species and are, therefore, viewed as more valuable. All other migratory birds and the effects the project will have on them are totally ignored an unacceptable approach, and one that is totally inconsistent with the federal government's responsibility for all migratory birds. The species most likely to be affected are birds nesting along the river or depending on it for food, as well as all those upland species whose habitat will be lost through flooding or altered through modified water flows and downstream channelization.

Moreover, the document states that mitigation measures can be applied so that there will be "no net loss" of waterfowl habitat. This in no way compensates for the loss of a variety of other habitats which are part of a complex ecosystem and are just as important. In addition, although replacement of waterfowl habitat may be possible in theory, it is totally unrealistic in practice. Further, even if it were possible to ensure "no net loss" of waterfowl habitat, the money that this would involve would be much better spent on providing badly needed new areas rather than replacing existing ones.

The potential drainage of upstream wetlands to fill reservoirs will result in serious habitat loss which will further affect waterfowl and many other wildlife species. This aspect has not been considered in any detail by the IEE.

FISH AND FISH HABITAT

As with the discussion on migratory birds, this section deals with game fish and ignores non game species. Such species are important in their own right, because they are major sources of food for game species and other wildlife, and because all are interdependent components of the ecosystem. Thus, effects on all fish species should be investigated.

The impact statement should look at biological as well as physical changes that will occur as a result of dam construction, etc. and how they will affect fish populations. The IEE should take into account the effects the project will have on habitats and all components of these habitats, e.g., effects on aquatic organisms other than fish (such as reptiles, amphibians, invertebrates, aquatic plants). These components of the ecosystem are important links in food chains involving, among others, all fish species. Consequently, how they fare will have a direct bearing on the well being of fish and other wildlife.

Induced winter killing to control unwanted carp invasions in North Dakota is unacceptable. It will affect not only all fish species but entire ecosystems. While game fish may be restocked, entire ecosystems cannot be restored. The result will be much impoverished aquatic environments and increased organic and bacterial pollution.

RARE AND ENDANGERED SPECIES

Fauna

The IEE uses the term "rare" species when referring to categories on the COSEWIC list. In April 1988 the "rare" category was replaced by "vulnerable." "Rare" now means that a species is uncommon but does not place it in a particular COSEWIC category. This new terminology should be used in the present document.

The environmental evaluation rightly points out impacts on the Ferruginous Hawk, a threatened species, in the form of loss of nesting and feeding habitat. It fails to mention, however, that this is a serious consideration not only in Saskatchewan but also in Manitoba (and perhaps in North Dakota as well) where the hawks have recently resumed breeding after approximately 50 years of no breeding records. Tampering with this new but tenuous breeding success is likely to result in disaster. Moreover, simply relocating nests and providing "new" pasture land is no guarantee that there will not be a reduction in numbers or a decrease in breeding success. In fact, it is highly unlikely that relocating nest sites will be of any value.

The Baird's Sparrow is a common breeder in the Souris valley. Because this valley bottom is one area where the threatened species is thriving, it is significant and deserves protection. Due to the species' threatened status, the likely negative effects of the dam project on the birds should be considered as a "Significant Impact." The document, however, places effects on the Baird's Sparrow as the last item on the list of "Moderate Impacts."

On several occasions the IEE mentions that the creation of reservoirs will be beneficial to the Piping Plover, an endangered species. This is extremely problematic as there are so many unknowns that anything, positive or negative, can happen. Thus, it is unrealistic and misleading to give the impression that the project will definitely benefit the Piping Plover.

Cavalier statements such as "it is expected that any impact to rare and endangered fauna would be mitigable" reflect a lack of real understanding of the situation and a naive belief that manipulation can right any wrongs. Claiming that it is so easy to provide suitable conditions for endangered species is completely out of step with reality, as evidenced by the fact that the COSEWIC list has now grown to 180 and only one species has ever been successfully removed from it.

Flora

None of the plants in the Saskatchewan portion of the Souris River valley are on the current COSEWIC list, in part because studies may not have been presented to COSEWIC for consideration. However, the National Museum of Natural Sciences has published lists of plants which are sufficiently uncommon to be considered provincially or nationally rare. It is in this context that the term "rare" is used throughout this section.

Information on rare flora contained in the IEE is incomplete and not up to date for the Saskatchewan portion of the dam project. Even less is known about the situation in Manitoba and virtually nothing in North Dakota. Hence, data does not exist on what will happen there.

The environmental impact statements presented thus far contain numerous taxonomic errors. Dr. Vernon Harmes of the W.P. Fraser Herbarium at the University of Saskatchewan, has recently prepared a paper entitled "Distribution and status of provincially rare plants in the Souris River valley, south eastern Saskatchewan" (Fraser Herbarium Technical Report # 89-1). It is the most up-to-date reference on the flora of the area in question.

In it, Dr. Harmes states that the Souris valley is one of the richest botanical areas of the province because of the high concentration of rare plants. He lists 36 provincially rare

species (the IEE lists 19). Of these, 14 are nationally rare (as opposed to 5 according to the IEE). Most are likely to suffer as they are located on the floodplains downstream of the dams, where habitat destruction will occur because of fluctuating water flows and downstream channelization.

These plants are important in their own right. Perhaps more important is the fact that special plants are indicative of a special habitat, including special wildlife habitat. As such, the unusual vegetation of the area is a vital link in the entire ecosystem.

OTHER AREAS OF CONCERN

Habitat Loss

The project will affect 16 sections of Critical Wildlife Habitat, as identified by the Saskatchewan government. No mitigation is possible, as critical habitat cannot be replaced, i.e., entire ecosystems cannot be recreated even though it may be possible to create some habitats for particular species. Moreover, although irrigation may be of benefit to agriculture, it is likely to create problems because it will encourage the breaking up of land which, until now, has been marginal for agriculture but important to wildlife.

Although it can be argued that habitat preservation is not a federal concern but a provincial one, such a position would be contrary to the federal government's vocal endorsement of sustainable development. At the very least, the federal government has a moral responsibility not to destroy important habitat.

It follows, therefore, that the IEE should take into consideration all forms of habitat loss through flooding, alterations in current conditions in areas which are now arid but will be irrigated, habitat changes resulting from altered water flows and downstream channelization, etc. It should also address serious concerns related to probable drainage of valuable upstream wetlands to provide water for the reservoirs.

Mammals

The IEE ignores the effects the dam project will have on mammals and does not consider their habitat requirements. White tailed deer have been of prime concern, but the area also supports a number of smaller, less conspicuous species important in maintaining a balanced ecosystem and serving as sources of food for other wildlife, including the threatened Ferruginous Hawk.

Other Wildlife Species

No systematic studies of amphibians and reptiles or invertebrates have been carried out in Saskatchewan, Manitoba or North Dakota. Hence, information is apparently unavailable on the effects the project will have on these animal groups in any of the three jurisdictions. This information should be obtained before a decision is made regarding the advisability of the project.

Margin of Error

The Rafferty Alameda Board of Inquiry, itself, recognized the potential down side of the project due to the difficulty of accurately predicting fill rates for the reservoirs. Yet, all the IEE discussion is based on computer modelling which assumes that the reservoirs will be full and water flows will be steady. Nowhere does the draft summary consider the very likely possibility that the optimal model will not be the case, i.e., modelling is not based on the most likely conditions. As water availability is likely to fluctuate considerably, huge mudflats will probably form along reservoir shorelines, an occurrence that is ignored by current models as well as mitigation measures and is not exactly conducive to recreational activities.

Archeological Sites

Last but not least, the draft summary is silent about the fact that some 350 archeological sites will be adversely affected. The proposed solution is to sample and excavate the sites and to remove artifacts for display and educational purposes. This means that the sites will be lost, unavailable for further study.

CONCLUSION

The Rafferty Alameda project is widely viewed as a test of the federal government's stated support for 'sustainable development.' Thus, the first consideration of the IEE should be to question the wisdom of the entire project, as both economically and environmentally it is based on very tenuous predictions.

The major deficiency of this IEE is that it treats the environment in an extremely simplistic, compartmentalized and piecemeal manner. This is completely at odds with the principle that an entire ecosystem must be considered as a whole rather than a sum of its parts. Consequently, the proposed mitigation measures are also grossly oversimplified and, in fact, are only band aid solutions. For example, it is insufficient to replace waterfowl habitat by creating some flooded areas and planting a few cattails, or to replace fish habitat by creating areas of suitable water depth and stocking them with certain desirable fish species, or to relocate Ferruginous Hawk nests to replace current ones. Such manipulations are likely to be only partially successful at best, as wildlife has a variety of complex requirements, all of which must be met simultaneously if it is to survive. Moreover, some species have a low tolerance to disturbance and may leave the area no matter how suitable the habitat provided for them.

Thus, to perform a comprehensive environmental evaluation, the entire complex ecosystem with its numerous interrelated facets must be considered as a unit, and cumulative effects must be studied. In addition, both provinces as well as North Dakota must be considered as part of one system. All proposed mitigation measures must take these facts into account.

In the IEE as it now stands, there are so many unanswered questions, environmental impacts and public concerns that a full review of the Rafferty-Alameda project is most definitely warranted. The Canadian Nature Federation considers many of the environmental effects of the project to be unacceptable and would like to see the project modified significantly to address these concerns, or cancelled, if that is impossible. A full federal environmental assessment of the impacts of the Rafferty-Alameda dams on the entire Souris River basin is the only way to thoroughly evaluate the wisdom of this project and, in the view of the CNF, such an assessment is essential.

Working for the Nature of Tomorrow

NATIONAL WILDLIFE FEDERATION

1400 Sixteenth Street, N.W. Washington, D.C. 20036-2266 (202) 797-6800

July 7, 1989

Inland Waters Directorate
Environment Canada
1901 Victoria Avenue
Regina, Saskatchewan S4P 3R4
CANADA

Re: Rafferty-Alameda Project

Dear Sirs and Madams:

We are pleased to submit these comments for the record on the Initial Environmental Evaluation (IEE) of the proposed Rafferty-Alameda Project in the Souris River Basin in Saskatchewan. We request that you include the enclosed materials as part of the record including our earlier comments to the Rafferty-Alameda Board of Inquiry, the Saskatchewan Power Corporation, and the U.S. Army Corps of Engineers regarding the Rafferty and Alameda Project, the Shand Power Plant, and effects in North Dakota of the Rafferty-Alameda Project.

The preparers of the draft IEE documented and assessed most of the potential environmental effects of the project and highlighted at least ten significant information deficiencies encountered in preparing the IEE. Following the public review, the final IEE will recommend a course of action to the Federal Minister of the Environment. The Minister may allow the project to proceed with prescribed mitigation or other conditions, delay a decision until additional studies are completed; appoint a review panel to evaluate the proposal in depth; or find the proposal unacceptable.

The National Wildlife Federation urges the Minister of the Environment not to issue a Federal licence under the International River Improvements Act (IRIA) to the Saskatchewan Water Corporation for the proposed Rafferty-Alameda Project. The draft IEE has identified significant and moderate adverse environmental impacts of the project that are

unacceptable. The predicted high evaporation rates from the proposed Rafferty and Alameda reservoirs would cause extreme hydrologic changes in the Souris River Basin. The resulting reduced flows to North Dakota would severely impact the Upper Souris and J. Clark Salyer National Wildlife Refuges. "Lake Darling (Upper Souris NWR) would experience the most severe impacts as its waters would be drawn down to provide critical flow to the wildlife refuges during low flow conditions." (Draft Summary IEE p. 19) The reduced flows and increased activity in or near the river in Saskatchewan would impact water quality downstream in North Dakota and Manitoba. The project is uneconomic: the costs of the project would be greater than its benefits. The authorized four-foot raise of Lake Darling Dam is a reasonable alternative to reduce flood damages at Minot, North Dakota.

If your recommendation to the Minister is to subject the proposal to a full-scale evaluation by a review panel, instead of rejecting the proposal outright, we suggest that the following issues be emphasized in the scoping and evaluation of the application.

The planning process should identify the water resources problems and opportunities in the Souris River Basin and all reasonable alternatives, both structural and non-structural measures, to solve problems or develop opportunities. The record indicates that the Souris Basin Development Authority (SBDA) did not attempt to formulate alternatives to the proposed project: the Rafferty and Alameda Dams, the Rafferty-Boundary Diversion Channel, and the channelization of 16 km. downstream from the Rafferty Dam. The absence of alternatives suggests that the water resources problems identified by the SBDA did not provide the primary rationale for the project proposal.

The SBDA's statement of water resources problems noted that large variability in the flows of the Souris River subject(s) residents of the area to floods and droughts. But this extreme variability means that measures to reduce one extreme can increase the opposite problem. Evaporation rates of 30% of storage in the Rafferty and Alameda reservoirs would increase adverse effects of droughts. The Souris River Basin Study (1978) found that the gross benefits of any structural flood mitigation measures would be small and that the net benefits would be negative.

The SBDA identified recreational opportunities in its Environmental Impact Statement (1987 Ch. 1, pp. 4-5). The flooding of the riparian areas of the Souris River and Moose Mountain Creek, the Mainprize Park, and the Lutheran Bible Camp would reduce recreation benefits more than would be generated at the reservoirs. Reservoir recreation would be extremely limited because the long filling time, releases, and evaporation would expose some of the reservoir bottoms over half the time. The project's adverse effects on waterfowl production and the loss of fish habitat, identified in the IEE, will reduce recreational opportunities further.

The SBDA found that the Souris Basin has approximately six farms per 1,000 that irrigate compared to a provincial average of 20 per 1,000. (1987 EIS Ch. 1, p. 4) This statement does not identify a water resources problem. The proposed reservoirs would flood more land than they would irrigate.

The project seems designed to "provide some (short term) protection for the local labour force and service sector and in the longer term it provides an effective stimulus for new economic initiatives." (Rafferty-Alameda EIS Ch. 2, p. 22) Short-term employment opportunities need not be water resources based, nor should they be subsidized at the expense of the environment. Environment Canada's comments on SBDA's draft Rafferty-Alameda Environmental Impact Statement (July 6, 1987) noted correctly: "The justification of Rafferty-Alameda projects is based upon a misunderstanding about the process of economic growth and the role of water as an agent of economic development." (Appendix 1, p. 10, attached)

The Public Review Panel should carefully evaluate the economic costs and benefits of the proposed project and all reasonable alternatives. The Draft IEE failed to discuss the poor economics of the project. In theory, the economic benefits and costs of a plan and the beneficial and adverse environmental effects should be evaluated and displayed to assist decisionmakers in weighing these effects in exercising their judgments. The SBDA chose the high range in estimating benefits of the project without accounting for the large evaporative losses, and yet could not find that the benefits exceeded the costs. In our opinion, more objective evaluation of the benefits and costs of the proposed project will find that it is not economically feasible. It does not make sense to licence a project that causes economic losses and harms the environment.

We congratulate Environment Canada on identifying the major issues, the significant environmental effects, and the informational gaps in a short period. If the Minister decides to proceed with an in-depth environmental and economic review, we will be pleased to provide the Panel with suggestions on the scoping process and comments on its draft document.

Sincerely,

David C. Campbell, Economist
Water Resources Program

Enclosures (9)

cc: Louis Lemieux, President, Canadian Wildlife Federation
Rich Cunningham, President, North Dakota Wildlife Federation
Robert Barton, President, Manitoba Wildlife Federation
Derek Stanley, President, Saskatchewan Wildlife Federation

June 22, 1989

Hon. Lucien Bouchard, P.C.M.P., M.P.
Minister of Environment
Room 511, S. Center Block
House of Commons
Ottawa, Ontario
CANADA K1A0A6

Dear Sir:

I am writing to express my support of flood control for Minot and the surrounding area, and to urge the completion of the Rafferty and Alameda Dams.

Having had to move from my home three times, once being at the time of my daughter's wedding, I am very much aware of the need for flood control in this community. I would, therefore, encourage continued efforts towards obtaining this necessary goal.

Sincerely,

Helen Hurly

Helen E. Hurly
1225-15th Ave. SW
Minot, ND 58701

ENVIRONMENT CANADA
The Honourable Lucien Bouchard
Minister of the Environment
House of Commons, OTTAWA, CANADA

I am including my opinion among those that are in favor of the Rafferty-Alameda Project. I am a rancher that has studied the flood and water shortage problems of the Souris since 1972 and was born and raised on its banks. My family came here in 1884 establishing a ranch and have suffered both from drought and floods over the years. After this project is in place we may still realize damages during high flow years as we are included in the easement area which will permit the drain down of the flood storage portion of the Dams so it will not destroy more populated areas and still be ready for the possibility of another flood the very next year.

My concern is also for the environment; during high flow years much damage is done to the environment along the river. This damage has been more pronounced in the years after mechanization by farmers. Much drainage has been done on the upper reaches of this river. Since 1905 the Yellow Grass Marsh has been drained and the drains have been deepened in the last 12 years. The coulees that drain into the Souris in Saskatchewan have realized more water from field drainage in the last 20 years. Since the greater percentage of illegal and legal drainage in the N.D. Portion is drained into the J.Clark Salyer refuge downstream from our populated areas, most of our flood problems come from Saskatchewan. Records show that over 90% of the floodwaters inundating Minot in the 70's came across the border. I'm sure this would have been much less if the Yellow Grass Marsh and Coulees had never been drained. Likewise of the Drainage in North Dakota and its effects on Manitoba flooding. When this torrent of water hits McHenry County the top soil is washed off of fields as the river cuts across the meanders; next to roads I have seen gravel spread out on the fields. I have also seen bushes and trees literally washed down stream plugging piling bridges and covering fields and meadows with debris. Much Wildlife is displaced . We have 365 acres on our ranch alone under water during these floods and the waterfowl must nest elsewhere if they nest at all. Mammals must move to higher ground. Altho there are shelterbelts now that where not here prior to homesteading they cannot replace the natural habitat the Souris River Valley provides when it is not flooding.

In my opinion damage to the Environment is more pronounced during flood years then during drought. Damages to the Eaton Irrigation Project which was designed for flows before,(the drain everything attitude started) is more serious leaving damages to the main dam, pond gates, spillways, dikes and access roads. Besides the removal of debris washed in. All this is an added expense on the landowners who are the taxpayers.

I believe we should build the dams, but keep an open mind on a Basin Wide basis as to the operation of them and work to benefit as much of the Valley as absolutely possible. Our water heading uncontrolled to Hudson Bay doesn't make sense.

Sincerely,

Orlin R. Dium
SR 2 Box 16
Towner, N.D. 58788